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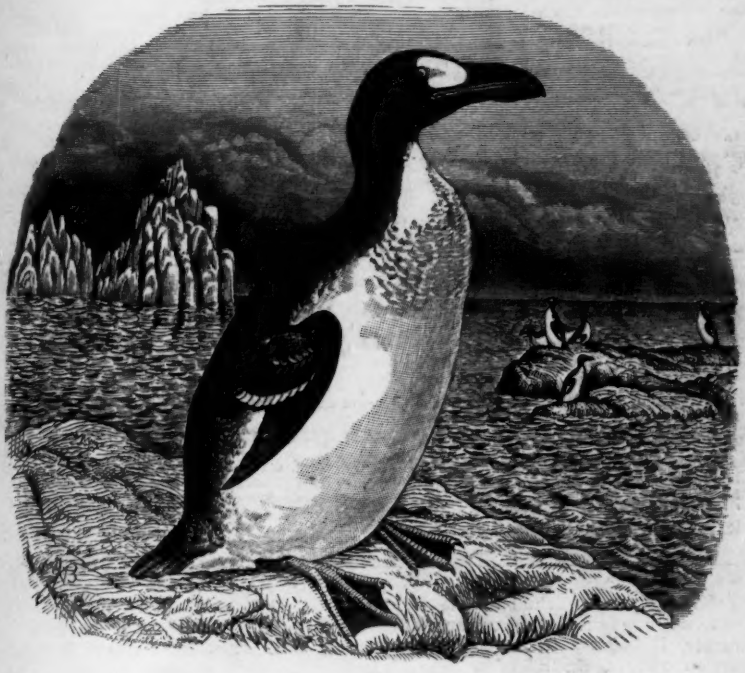

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THE AUK:

A QUARTERLY JOURNAL OF ORNITHOLOGY.

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THE BIRD ROCKS OF THE GULF OF ST. LAWRENCE IN 1887.

BY FREDERIC A. LUCAS.

THREE hundred and thirty-two years ago Jacques Cartier, voyaging in the Gulf of St. Lawrence, wrote as follows: "We came to three islands, two of which are as steep and upright as any wall, so that it was not possible to climb them, and between them there is a little rock. These islands were as full of birds as any meadow is of grass, which there do make their nests, and in the greatest of them there was a great and infinite number of those that we call Margaulx, that are white and bigger than any geese, which were severed in one part. In the other were only Godetz, but toward the shore there were of those Godetz and great Apponatz, like to those of that island that we above have mentioned; we went down to the lowest part of the least island, where we killed above a thousand of those Godetz and Apponatz. We put into our boats so many of them as we pleased, for in less than one hour we might have filled thirty such boats of them. We named them the Islands of Margaulx."

While this description, as well as the sentences which immediately precede it, contains some statements that apparently are at variance with existing facts, there is nevertheless good reason to believe that Cartier here refers to the Bird Rocks in the Gulf of

St. Lawrence.* The birds called Margaulx, "which bite even as dogs," were Gannets whose descendants, in spite of centuries of persecution, are to be found to-day, nesting where their ancestors did before them.

That Cartier's description of the islands does not accord with their present appearance is not to be wondered at. The material of which they are composed is a soft, decomposing, red sandstone that succumbs so easily to the incessant attacks of the sea that Dr. Bryant's description of them in 1860 does not hold good to-day. If, then, the Bird Rocks have undergone visible changes in twenty-five years, it is easy to imagine how great alterations the islets may have undergone during three and a quarter centuries.

Dr. Bryant in 1861 wrote as follows: "These [the Bird Rocks] are two in number, called the Great Bird or Gannet Rock, and the Little or North Bird; they are about three-quarters of a mile apart, the water between them very shoal, showing that, at no very distant epoch, they formed a single island. . . . The North Bird is much the smallest and though the base is more accessible, the summit cannot, I believe, be reached, at least, I was unable to do so; it is the most irregular in its outline, presenting many enormous detached fragments, and is divided in one place into two separate islands at high water; the northerly one several times higher than broad, so as to present the appearance of a huge rocky pillar.

"Gannet Rock is a quarter of a mile in its longest diameter from S. W. to N. E. The highest point of the rock is at the northerly end where, according to the chart, it is 140 feet high, and from which it gradually slopes to the southerly end, where it is from 80 to 100.

"The sides are nearly vertical, the summit in many places overhanging. There are two beaches at its base on the southerly and westerly sides, the most westerly one comparatively smooth and composed of rounded stones. The easterly one, on the contrary, is very rough and covered by irregular blocks, many of large size and still angular, showing that they have but recently fallen from the cliffs above. This beach is very difficult

* I am indebted to the courtesy of Commander J. R. Bartlett, Chief of the Hydrographic Office, and to Mr. G. W. Littlehales, of the Division of Chart Construction, for very kindly supplying me with data to aid in solving this problem.

to land on, but the other presents no great difficulty in ordinary weather; the top of the rock cannot, however, be reached from either of them. The only spot from which at present the ascent can be made, is the rocky point between the two beaches; . . . ."

The Great Rock has apparently altered but little during the past twenty-five years, but such changes as have taken place have tended to improve the character of the southerly beach, which has been selected by the keeper of the lighthouse erected here, for the customary landing-place. Two long ladders, bolted to the rock, now lead to the summit, to which, by means of a winch and a fall, the lightkeeper raises his little boat.

The westerly beach, is, however, the most accessible, and it is here that the heavy lighthouse supplies are landed, a large hoisting apparatus having been placed at the top of the overhanging cliff.

If the Great Rock is but little changed, its lesser relative has suffered greatly from the ravages of time, and sea and frost, rain and ice, have wrought sad havoc with it. It cannot be called an easy spot to land on in any but the smoothest of seas, but once a landing has been effected it is now an easy matter to climb to the summit of either of the two portions into which it is divided.

The wide cleft which forms the division seems to be of comparatively recent origin, and it is only a question of time when there shall be two islets instead of one. The rocky pillar off the northeastern end still stands, but is separated from the little rock even at low tide, although if one does not mind cold water and slippery rocks, it is then easy to wade across the connecting ledge.

It is quite possible, or even probable, that the shoal running from Little toward Great Bird Rock marks the site of the third island and little rock mentioned by Cartier. Or again Cartier may have been at the islands only during flood tide, in which case the Pillar would represent the third island, then undoubtedly of much greater extent.

The birds do not seem to be divided into colonies according to species, Gannets and Murres being found in close juxtaposition, and although the Gannets prefer the upper ledges, yet their distribution is to a great extent regulated by the width of the rocky shelves, the Murres taking possession where there is not

sufficient room to accommodate their larger companions. There is, however, a tendency of birds of a feather to flock together in little groups of a dozen or two, and at a distance the cliffs appear seamed with white, owing to the lines of perching Gannets.

The top of the rock is now entirely deserted by all birds except the little Leach's Petrels, who burrow in security among the fragments of stone that everywhere show through the shallow soil. Like all their kind these little birds stay at home all day in order to indulge in the reprehensible practice of staying out all night. Consequently none were visible at the time of our landing, late in the afternoon, although a few minutes digging unearthed, at the extremity of a single rat-like burrow, four birds and five eggs.

It is very evident from a little comparison that the interesting colony at the Bird Rocks has become sadly diminished in numbers. At the time of Cartier's visit, every inch of available space seems to have been occupied by breeding birds, and even so late as the time of Audubon this still appears to have been the case. The Gannets were then largely used for bait by the fishermen of Byron Island, and it is related how a party of six killed with clubs 640 birds in less than an hour. In 1860 Dr. Bryant estimated the number of Gannets breeding on top of the Great Rock alone at 50,000 *pairs*, although this is very likely too high a figure. In 1872, owing to the erection of a lighthouse, the colony on top of the rock had become reduced to 5000, and in 1881 Mr. Brewster found that the Gannets had been entirely driven from the summit, although the Little Rock was still thickly populated. He places the total Gannet population of the Rocks at 50,000 which is still an extraordinary and impressive number, though much less than the figures of previous observers.

At the time of Mr. Brewster's visit the Murres were rapidly decreasing in number owing "to the recent introduction of a cannon which is fired every half-hour in foggy weather. At each discharge the frightened Murres fly from the rock in clouds, nearly every sitting bird taking its egg into the air between its thighs and dropping it after flying a few yards. This was repeatedly observed during our visit and more than once a perfect shower of eggs fell into the water around our boat. So serious-

ly had the Murres suffered from this cause that many of the ledges on the side of the rock where the gun was fired had been swept almost clear of eggs."*

Mr. Turbid, who very kindly afforded us all the assistance and information in his power, told us that the birds were gradually becoming used to the cannon and that the destruction from its use was now comparatively small.

In 1887, only six years later, not a single Gannet bred on the Little Rock although perhaps, a hundred and fifty may have found nesting places on the Pillar, while according to Mr. Turbid's figures not more than 10,000 dwelt on the ledges of the Great Rock. The decrease of the Gannets is most apparent, but the smaller birds have doubtless suffered in the same proportion. Scarce a day passes when the weather is at all favorable, without a visit from some party of fishermen desirous, like those we met at the Little Rock, of obtaining a few Murres for their table. In fact, while we were on the rock, three men landed on the westerly beach and opened fire on the Murres perched along the overhanging ledges, killing some and wounding more.

Many barrels of eggs are also gathered during the season, so that altogether the birds lead a precarious existence. Still a large portion of the island is, practically, so inaccessible that unless the feather hunters afflict this interesting spot with their presence the birds may continue to breed here in diminished numbers for a long time to come.

Besides that of the Bird Rocks the only large colony of Gannets in the Gulf of St. Lawrence is at Bonaventure Island, where, on the lofty and vertical cliffs of the eastern side, these birds breed in a state of semi-security. Dr. Bryant inadvertently locates this colony at Percé Rock, but although this curious and inaccessible island is only a mile or so distant, and the birds breeding on its summit are perfectly safe, not a single Gannet is to be found among them.

During the last twenty years the number of Gannets at Bonaventure Island has greatly diminished, and Capt. J. W. Collins told me when we visited the island in September, 1887, that he was surprised to see how the colony had fallen off.

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* Brewster. Proc. Bost. Soc. Nat. Hist. Vol., XXII, p. 410.

That it ever compared in extent with the Bird Rock colonies seems to me extremely doubtful, although Dr. Bryant has so stated. At Bonaventure some of the ledges are accessible to a good climber, while many others may be reached by the aid of ropes, so that by the continued pillaging of their nests the Gannets have greatly decreased in number.

A few Gannets still linger at Perroquet Island, of the Mingan group, in spite of the fact that Dr. Bryant predicted twenty-seven years ago that it would soon be deserted. In 1881 Mr. Brewster speaks of having seen several hundred birds, but in 1887 Capt. Collins found but a dozen or fifteen sitting by their empty nests. The Indians regularly make a clean sweep of this island, and it seems wonderful that a single Gannet should still exist here.

It was my fortune to visit the Bird Rocks on the 9th of July in company with Capt. J. W. Collins and Mr. William Palmer, our object being that of everyone who lands there, to kill birds and gather eggs.

We were favored with an unusually light wind and calm sea, and with a little precaution succeeded in beaching our boat on the shelving ledge on the southerly side of the Little Rock, with no farther accident than that of shipping a bucketful or so of water.

We found that we had been preceded by a party of three fishermen, who had killed a few Murres and Razorbills in order to make a little change in their daily bill of fare, stewed Murre being a dish by no means to be despised. Scores of Gannets were seated on the top of the islet or wheeling anxiously overhead, but a careful search revealed the fact that not an egg or nestling of this bird was to be found. Neither did there appear at first sight to be either egg or young of the Murre or Razorbill in any spot accessible to man, although by dint of much peering under ledges and peeping among the masses of fallen rock a few of each were brought to light. Some of these little nestlings were found in crevices of the rocks scarcely above the level of the tide, and had it not been for their faint but continuous peeping, their presence would have been quite unsuspected.

On the northern side, under the overhanging cliffs, a small number of Murres, Razorbills, and Puffins had their nesting places on the inaccessible ledges, and on the perpendicular walls of the southern side a few Kittiwakes had literally reared their young.

The top of the Pillar was closely packed with breeding Gannets, while here and there a few were dotted along its sides. As this isolated rock is not particularly easy to reach, these birds, together with a considerable colony of Murres, probably succeeded in raising their young, although their number was small compared with the number that might have been raised on the Little Rock had it not been swept clean by the fishermen. Three young Gannets, varying in age from one to three days, were secured from the sloping side of the Pillar, these, according to Mr. Turbid, the lightkeeper, being the first of the season, as the Gannet's period of incubation is much longer than that of the other birds breeding in company with it.

A visit to Great Bird Rock showed it to be the real breeding-ground of the birds, Gannets, Murres, Razorbills, and Puffins being both abundant and tame in spite of the fact that they are subjected to continual persecution.

No Gannets were seen on the Labrador coast east of Mingan, and none on the eastern coast of Newfoundland. At the time of Cartier there seems to have been a colony of these birds on Funk Island, and if one may credit the testimony of the fishermen, they were breeding there thirty years ago. But after the extermination of the Great Auk the fishermen and eggers seem to have done their best to extirpate the remaining denizens of this isolated spot, and it may well be that the Gannets were as effectually annihilated as the unfortunate Garefowl. Certain it is that no Gannets are to be found on Funk Island to-day, and but comparatively few Murres and Razorbills. Twenty years ago one boat took away eleven barrels of eggs on one trip; this year it is much to be doubted if (aside from the Puffins) there have been two barrelfuls laid on the island. Gannets are peculiarly liable to extermination from the pertinacity with which they cling to their old established breeding places; for once they have made a spot their home nothing short of complete destruction seems to drive them from it; and while there are many islands in the Gulf of St. Lawrence which would furnish suitable nesting-places for them, yet, year by year, they return to Bonaventure Island and Bird Rock.

ON THREE APPARENTLY NEW SUBSPECIES OF MEXICAN BIRDS.*

BY WILLIAM BREWSTER.

Glaucidium gnoma hoskinsii,† new subspecies.—HOSKIN'S PIGMY OWL.

SUBS. CHAR. Similar to *G. gnoma californica* but smaller and grayer, the forehead and facial disc with more white, the upperparts less distinctly spotted.

♂ *ad.* (No.14,153, collection W. Brewster, Sierra de la Laguna, Lower California, May 10, 1887; M. Abbott Frazar). Above faded brown tinged with ashy on the crown and back, with faint rusty on the wings and tail, the crown, nape, and back with numerous small, indistinct, irregular shaped spots of rusty white, the rump and upper tail-coverts with larger, rounder ones of nearly pure white; fore back crossed by a collar of rusty ochraceous, this bordered anteriorly by blackish and some nearly concealed white; scapulars and some of the wing-coverts with large conspicuous spots of white or rusty white; wing quills crossed by numerous light bars, nearly obsolete excepting on the outer webs of the third, fourth, and fifth primaries where, beyond the point of emargination, they are distinctly marked by white spots, two or three on each feather, and on the inner webs of all the quills (excepting those of the emarginated primaries beyond the point of emargination), where they are pure white for about two-thirds of the distance from the inner margin to the shaft; tail crossed by seven imperfect bands of white (the last **terminal**) formed by narrow, transverse, opposite spots not touching the shaft on either side; forehead, nasal plumes, and sides of head sparsely flecked with dusky on a pure white ground; sides of neck uniform with nape; underparts pure white, the chin, sides of throat, jugulum, middle of abdomen, and anal region immaculate, the sides of the breast and a broad band across the throat reddish brown; flanks and under tail-coverts with coarse longitudinal streaks of clove brown more or less tinged with rusty; under wing-coverts and bend of wing white, the former with some coarse blackish markings; feathering of legs white, tinged, or perhaps obscurely flecked, with brown along the back of the tarsus.

Wing, 3.25; tail, 2.55; tarsus, .73; bill: chord of culmen from base, .50; ditto from nostril, .35; depth of bill at nostril, .35.

Two other adult males from the same locality, taken respectively June 1 and June 4, measure: wing, 3.33, 3.21; tail, 2.51, 2.35; tarsus, .76, .77; bill: chord of culmen from base, .55, .50; ditto from nostril, .32, 34; depth at nostril, .31, .35.

Habitat. Lower California.

[*An author's edition of 75 copies of this paper was published Feb 10, 1888.—ED.]

† To Mr. Francis Hoskins of Triumfo, Lower California, by request of Mr. Frazar to whom Mr. Hoskins rendered invaluable aid in the exploration of the Sierra de la Laguna.

Mitrephanes phæocercus tenuirostris, new subspecies.—SLENDER-BILLED FLYCATCHER.

SUBS. CHAR. Similar to *M. phæocercus* but with the general coloring paler, the bill shorter and very much narrower.

♀ *ad.* (No. 14,150, collection W. Brewster, near Oposura, Sonora, Mexico, June 7th, 1887; J. C. Cahoon, No. 1129). Above brownish drab, the wings and tail nearly uniform with the back and crown but perhaps a shade browner; middle and greater wing-coverts tipped with white, forming wing-bands; forehead tinged with ochraceous; lores dusky; a narrow orbital ring of buffy white; a band or half collar passing around the hind neck, sides of neck, auriculars, cheeks, bend of wing, under wing-coverts, and remainder of underparts clay color, palest on throat and under tail-coverts, deepest—somewhat ochraceous—on the breast, under wing-coverts, and sides of neck. Length,* 5.45; extent,* 8.50; wing, 2.72; tail, 2.42; bill: length from base, .45; length from nostril, .25; width at nostril, .20.

Habitat. Western Mexico (Sonora, Mazatlan).

The National Museum collection contains eight specimens labelled *M. phæocercus*, one from Guatemala, one from Coban, three from Orizaba, two from Mazatlan, and one marked simply Mexico. Of these the first five may be referred confidently to *phæocercus* (the Guatemala specimen, from the collection of Messrs. Salvin & Godman, is marked "compared with type"). Of the remaining three one (No. 51,506, Mazatlan, Feb. 1868; F. Bischoff) has an even smaller bill than the type of *tenuirostris*. Although somewhat deeper colored it doubtless belongs to the same form. The two remaining birds have broader bills and still deeper coloring and are probably intermediate between *phæocercus* and *tenuirostris*.

Dendroica æstiva sonorana, new subspecies—SONORA YELLOW WARBLER.

SUBS. CHAR. ♂ most nearly like ♂ *D. æ. morcomi* but with the underparts even more faintly and sparsely streaked, the upperparts, especially the rump, wings and tail much yellower, the light (yellowish) edging of wing-quills and coverts broader, the interscapulars with more or less conspicuous shaft-stripes of purplish chestnut; ♀ much paler and grayer than the ♀ of either *æstiva* or *morcomi*.

♂ *ad.* (No. 14,151, collection W. Brewster, Oposura, Sonora, Mexico, April 7, 1887; J. C. Cahoon, No. 559). General coloring rich gamboge yellow, deepest beneath, tinged with brownish orange on the crown, with

* Collector's measurements of fresh bird.

faint greenish olive on the occiput, nape, back, scapulars, and outer edges of the primaries, secondaries, and greater wing-coverts; interscapulars with conspicuous shaft-streaks of purplish chestnut; rump, middle and lesser wing-coverts and both webs of tertials, pure yellow; upper tail-coverts yellow with broad shaft-stripes of dull brownish olive; tail feathers, rich yellow, the shafts black, bordered on the outer webs by dark brown for varying distances from the tips; on the outer pair the dark color extends backward about half an inch, on the others from an inch to an inch and three-eighths; on the middle pair it occupies most of the terminal two-thirds of the inner web also; all the tail feathers are yellow across both webs for half an inch or more from their bases, and on all the brown spaces are bordered outwardly with yellow; wing quills clove brown with the outer webs edged narrowly with greenish yellow, the inner webs rather broadly with pure yellow, the light edges failing to reach the tips of the outer seven primaries, but on all the remaining quills passing around and forming a more or less conspicuous tipping to the feathers; lining of wing and under wing-coverts pure yellow; breast and sides finely and sparsely streaked with faint chestnut red.

Wing, 2.55; tail, 1.79; tarsus, .70; bill from base, .50; from nostril, .32; width at nostril, .12.

♀ *ad.* (No. 14,152, collection W. Brewster near Oposura, Sonora, Mexico, April 14, 1887, J. C. Cahoon, No. 666). Above very pale smoke gray, tinged faintly with yellowish, the wing-coverts and tail feathers more strongly yellowish, the tail feathers with the brown markings more extended than in the ♂; entire underparts very pale straw yellow, the throat and jugulum creamy white.

Habitat. Southern Arizona, Western Texas (Frontera) and Sonora, Mexico.

The male of the form just described may be separated at a glance from the male of either *æstiva* or *morcomi** by its much yellower coloring above, the rump being usually pure yellow, and the back and wings only faintly tinged with greenish, whereas *morcomi* is ordinarily even greener above than true *æstiva*. The underparts are always (?) more faintly and sparsely streaked than in *morcomi*, while in several of my specimens they are nearly quite immaculate. The purplish streaking of the interscapulars is usually a marked feature, but it is not always present in *sonorana*, while I have found it faintly indicated in two specimens of *morcomi*.

The female of *sonorana* is quite as strongly characterized as the male. The underparts are so very pale straw yellow as to appear

* I have examined the type in this connection.

almost white in a poor light, and the upperparts are very gray, with scarce a tinge of greenish.

Among the large series of Yellow Warblers before me I find four from Southern Arizona* and one from Western Texas (Frontera) which are referable to *sonorana*. A Colorado example is a fair intermediate between *sonorana* and *morcomi*. Typical *morcomi* is represented from Utah, California, Lower California, and Alaska. I also have two specimens from Sonora, but both were taken early in the season and doubtless were migrants bound further north.

NOTES ON THE BIRDS OF FORT KLAMATH, OREGON.

BY DR. J. C. MERRILL, U. S. A.

With remarks on certain species by William Brewster.

IN the fourth volume of the 'Bulletin' of the Nuttall Ornithological Club,† Dr. Mearns published a list of the birds of Fort Klamath, based upon the observations and collections of Dr. H. McElderry and Lieut. W. Wittich, U. S. A. The following paper is the result of my own collecting at the same place from September, 1886, to August, 1887, only such species as were personally observed or obtained‡ by myself being recorded. These include most of the land birds mentioned in Dr. Mearns's list,§ and a good many others; the water birds are relatively

* Since the above was written Mr. Allen has kindly sent to me for examination seven specimens (three males and four females) taken in Pinal County, Arizona, by Mr Scott. All of these prove to be *sonorana*. They form part of the series of eleven specimens whose peculiarities were commented on with some detail in the last issue of Mr. Scott's paper (Auk, Vol. V, No. 1, p. 34). In the absence of sufficient material for comparison, Mr. Allen, at that time, very naturally referred them to *morcomi*.

† July and October, 1879, pp. 161-166 and 194-199.

‡ The collection—some two hundred and fifty skins—which I made at Fort Klamath is now in the possession of Mr. William Brewster, whose comments on technical points of especial interest are included in the present paper.

§ Except *Zonotrichia leucophrys*, *Pipilo m. megalonyx*, *Melospiza f. montana*, *Agelaius gubernator* and *Falco mexicanus*.

fewer in number, as my opportunities for collecting them were less favorable, and many species that are certainly to be found at the marsh and lake were not obtained.

Other species, not included in either paper, are known to occur about the Fort, but I did not obtain specimens of them. Among these may be mentioned the Mountain and Valley Quails, rare as yet, but said to be increasing in numbers and extending their range; the Pileated Woodpecker, Purple Martin, Sage Grouse, and others. Among the oaks on the western slope of the Cascade Mountains, within about thirty miles, Nuttall's and the California Woodpecker are found, the latter in abundance.

Unless otherwise stated, my observations were made in the immediate vicinity of the Fort, the altitude of which is 4250 feet. The marsh frequently referred to is at the head of upper Klamath Lake, and about three miles from the Fort; it covers about eighteen square miles. Klamath Marsh proper is at the head of Williamson's River, and twelve miles to the northeast. Modoc Point is twenty miles south on the Linkville road, on the eastern shore of the upper lake. The elevation of Crater Lake, about the same distance in the opposite direction, is a little more than six thousand feet, but the edge of the Crater, which is the locality referred to when the lake is mentioned, is about nine hundred feet higher.

The winter was mild and open until the middle of January, when a severe snow storm began and continued, with few intermissions, until the first of March, the snow at that time being about five feet deep in the valley and very much deeper in the surrounding mountains. During April and May there was much cold and disagreeable weather, cold rains and light falls of snow, and the spring was more backward than usual.

Æchmophorus occidentalis. Common in the marsh during the breeding season, and until late in the autumn.

Podilymbus podiceps. Nearly as common as the last species, and found with it in the marsh and along the shores of the lake wherever tules grow.

Urinator imber. Several seen at Modoc Point in April and August.

Larus———. Gulls of at least two species were frequently seen on and near the lake, and occasionally about the marsh, but I did not obtain any specimens. They arrived late in March, singly and in flocks, and remained to breed on the islands in the lake.

Hydrochelidon nigra surinamensis. Common summer visitor, breeding in small colonies of six or eight pairs, generally near the edges of the marsh, but apparently placing their nests among tules and broken rushes

surrounded by water too deep to permit approach by wading. The only nest I found was on a floating but almost submerged cow 'chip,' a rather unusual place for a bird's nest; it was at the edge of a grassy pond in the middle of which several Terns were nesting, and it had probably drifted to where I found it. On the top of the 'chip,' a large one, were a few water-soaked grass and tule stalks, and the lower half of the egg was wet, though the bird was on it when found.*

Phalacrocorax dilophus cincinatus? A Cormorant which I took to belong to this subspecies, but of which no specimens were obtained, was quite common during summer on the lake and Williamson's River. Several small flocks were also seen in August at Diamond Lake, the head of the south fork of the Umpqua River, and about fifty miles north of the Fort.

Pelecanus erythrorhynchos. Common on the lake, a part of which is called Pelican Bay, from the abundance of these birds which breed on certain islands.

Merganser americanus.

Merganser serrator. Both of these species are quite numerous.

Lophodytes cucullatus. Several pairs seen on the lake and in the marsh; a resident species.

Anas boschas. Very common at all seasons, breeding in great numbers in the marshes and in suitable places along the streams. They begin to lay late in March, but the middle and latter part of April is the usual time for incubation to begin. So many nests are destroyed by the Indians, who have an annual egging, by coyotes, and by high water, that fresh eggs may be found until early in July. A nest found June 22 contained eight eggs, out of each of which the duckling was beginning to break its way, making a constant peeping noise. It is, perhaps, uncommon for so many young to hatch at exactly the same time, though I was told that this is often the case with Mallards and other Ducks.

Anas strepera. Not common in winter nor during the migrations. A pair was seen in the marsh on May 27, and from their actions doubtless had a nest near by.

Anas americana. Common during winter.

Anas carolinensis. Common in winter, especially in the smaller streams which are always open, even in the coldest weather. A few pairs remain to breed.

Anas cyanoptera. Early in May several flocks of this beautiful Teal arrived, and before the end of the month it was common in the marsh, mostly paired and not at all shy. As I waded about the shallow pools of water which are their favorite resort, they would often allow me to approach within a few feet. A nest found June 3 contained eight fresh eggs, and was placed on a tussock of dry grass, the new green blades surrounding it. When found the female was on the nest, which she left hurriedly; on my return later she had covered the eggs with dry grass stems and blades, completely concealing both nest and eggs. Two nests found

* A small white Tern, probably *S. antillarum*, was occasionally seen among the Black Terns, but none were secured for positive identification.

June 15 contained eight and ten nearly fresh eggs. These three nests were well and compactly made of dry grasses, and placed on tussocks; they were deeply cupped, with more or less down for lining, and were much more neatly made than Mallards'nests. The eggs before blowing are of a uniform creamy buff. Few of these Teal are seen after the first of October.

Spatula clypeata. Not uncommon during winter, but much more abundant during the migrations. In April mated pairs were almost as common as the Mallards, and in greater numbers than I have ever found this species elsewhere. A few remain to breed.

Dafila acuta. Common in winter and until the latter part of March.

Aix sponsa. Resident, but most common during spring and summer. A flock of six frequented the head of Squaw Creek, just outside the Fort, during the winter, and a fine male was shot January 29.

Aythya americana. Quite rare; but few seen or killed. The Canvas-back is sometimes shot here, but I did not see any.

Aythya marila nearctica. Abundant from autumn till spring. On June 15 I watched a pair of this species— although it has not been recognized as breeding so far south, their size was certainly too great for *affinis*—for some time in the marsh, and from their actions am confident that they were breeding and had a nest or young close at hand.

Aythya affinis. More common than the larger Scaup during the fall and winter months. I do not think that it breeds.

Aythya collaris. Very common during winter, more so than either of the Blue-bills, and arriving earlier in the autumn. A few pairs remain to breed in the marsh.

Glaucionetta clangula americana. Common from the middle of October until April. Some remain in Wood and Williamson's Rivers, but the majority prefer the lake, which twice during the winter was covered with ice. They were then found in great numbers on all the streams, but most of them returned to the lake as soon as it opened.

Glaucionetta islandica. Occurring at the same time and places as the common Golden-eye, but much less abundant. I saw none during the summer on any of the mountain streams, where I looked carefully for this species and for the Harlequin Duck.

Charitonetta albeola. One of the commonest Ducks during winter, and found everywhere.

Erismatura rubida. A not abundant winter visitor; apparently does not breed.

Chen hyperborea. During the autumn of 1886 and spring of 1887 most of the Snow Geese migrated east of the valley in which the Fort is situated. A few were seen, but they were decidedly rare in comparison with the White-fronted and Canada Geese.

Anser albifrons gambeli. Very common in April, the main flight occurring between the 20th and 30th, and many flocks stopping to feed in the grassy meadows bordering the marsh. The upper part of the valley is enclosed on the west and north by the main divide of the Cascade Moun-

tains, and on the east by a spur from the same range, all averaging a height of over 6500 feet. On stormy days, if the wind was not blowing from the south, Geese flying low up the valley had great difficulty in rising sufficiently to cross the abrupt divide, and most of them would return to the marsh and its vicinity to wait for a more favorable opportunity. At such times Geese of this and the next species gathered by thousands and afforded great sport. The immense numbers of these birds that migrate through Western Oregon cannot be appreciated until one has seen their spring flight, which, I am informed, extends in width from the coast inland about two hundred and fifty or three hundred miles. About fifty of this species were seen at the marsh on May 23, and twenty on May 27 and June 3, after which none were observed; their remaining so late excited general remark among the settlers.

Branta canadensis. This was the only Goose that remained in the valley during the winter. It breeds in considerable numbers. Many of the young are caught by Indians, and are easily domesticated. A few were kept at the Fort as pets; they were perfectly tame and fearless, flying from place to place for food, and sometimes circling around for an hour at a time for exercise. When old enough to breed they usually build their nests on the edge of Fort Creek or Wood River, sometimes within the Fort, at others two or three miles distant. When the female is sitting the gander is generally not far away, and a call of his mate, when her nest is approached, promptly brings him. At such times he generally flies directly at the intruder, whether man or dog, and unless dodged will strike a heavy blow.

Branta canadensis hutchinsii. This form migrates earlier in the spring than does *minima*, and is somewhat less abundant. These two birds are called Black Brant by the settlers, who call the White-fronted Goose Brant. They did not seem to know the true Black Brant, *B. nigricans*, nor did I see any.

Branta canadensis minima. Very common during the latter part of April. While at Fort Klamath I examined a large number of this group of Geese. Of *occidentalis* I saw none, although they are doubtless to be found here. *Canadensis* seemed to be typical. Most of the *hutchinsii* and *minima* were well marked, and could be easily identified. The chief variation in the latter was in the white collar, which was sometimes hardly perceptible; the abrupt demarcation between the dark and white in the anal region was very constant and striking.

Olor ———. Swans, probably of both species, are not rare during the migrations, and are often seen on the lake. On February 13, and for two or three days thereafter, flocks were seen flying north up the valley; this was said to be extremely early for their spring flight.

Botaurus lentiginosus. Common in the marsh, where in April and May their 'pumping' is heard on all sides, and where they breed plentifully.

Ardea herodias. Resident, but most common in summer.

Ardea egretta. A few seen in summer. One passed the winter on Wood River.

Ardea virescens. One of these Herons was seen at Crooked Creek May 4.

Nycticorax nycticorax nævius. Breeds abundantly in the marsh.

Grus mexicana. Sandhill Cranes are rather common in spring and autumn, arriving late in March, and several pairs breed in the marsh. They are more common, however, on Klamath Marsh.

Grus canadensis. A female was taken June 10, the dimensions of which were as follows: length from *base* of maxilla, 28.50; tarsus, 6.75; wing, 16.50; tail, 6.00; middle toe, 3.00; bare skin on forehead dark reddish; iris light brown; tarsi and feet black. The bill had been shot off within an inch of its base, and the tongue was distorted; the injury had healed entirely, and the bird was in fair condition, but the ovaries were undeveloped and it would probably not have bred this year. It was first seen in a marshy pool just outside the Fort, and was so small that I did not identify it as a Crane until I had approached it within thirty yards and could distinctly see the bare reddish skin on the forehead. It flew away uttering its characteristic note, but soon came back, and on returning with my gun I had no difficulty in shooting it.

Porzana carolina. Breeds commonly in the marsh. A nest found May 27 was among water grass near the edge of a shallow pool, and was supported by the stalks of the grass; the eggs were raised about six inches above the water, but the foundation of the nest was wet; it was composed entirely of the dead stalks and blades of the grass, and was rudely arched over with growing blades of the same. It contained twelve eggs from which the young would have soon appeared, and which average 1.26 × .88. Another nest containing nine nearly fresh eggs was found June 15; in situation and construction this was like the other.

Fulica americana. Common in the marsh, especially in the deeper parts near the lake. Breeds abundantly.

Phalaropus tricolor. Common during the migrations, a few pairs remaining to breed. On June 22 I watched a pair for some time. The female on my approach flew several hundred yards to meet me, circling around and occasionally uttering the usual cry. The male was flushed, and showed much solicitude when I came near a certain place, where after some search I found the nest, containing broken shells of three eggs from which the young had recently escaped. It was placed in a low tussock of marsh grass, well hidden by the fresh green blades, and composed of dead stalks and blades of the same.

Gallinago delicata. Very abundant in spring and fall; some pass the winter along the edges of the smaller streams, and many remain to breed. Their bleating is heard from the latter part of April till the middle of June, most frequently about sunrise and sunset, but occasionally at all hours of the day and night. A set of four eggs was brought to me on June 3. The nest was placed in a tussock of grass growing in a marshy place near Wood River, and consisted merely of a few blades of grass, both dry and green, forming a shallow depression. The eggs average 1.61 × 1.10, and incubation was considerably advanced.

Totanus solitarius. Specimens taken May 12 and August 16.

Totanus melanoleucus. Two seen April 23, and at intervals for two or three weeks. They return early in August and are rather common.

Symphemia semipalmata. One pair at least bred near the edge of the marsh, but I was unable to find the nest. My search for it seemed to disturb the parents very much, and about the last of June they suddenly disappeared, probably removing their young soon after they were hatched. Wishing to secure the entire family I did not shoot the old birds, which were probably the new *inornata* form.

Bartramia longicauda. A pair seen near the marsh, and the male shot, June 4. A pair with three nearly grown young were seen in the same locality on July 18, and Captain Bendire informs me that he also observed this species at Fort Klamath. The recognized range of the Bartramian Sandpiper is considerably extended by these records.

Actitis macularia. Common summer visitor.

Numenius longirostris. First seen March 28, and common by the middle of April. Breeds, but said to be less common in summer now than formerly.

Ægialitis vocifera. One of the earliest migrants to appear, and breeds abundantly. First heard March 8, and became common three or four days later.

Dendragapus obscurus fuliginosus. Generally distributed among the the pines, but not abundant. Their 'booming' began about the latter part of March and continued until May.

Bonasa umbellus sabini. Common in the valley, especially in aspen groves.

Pediocætes phasianellus columbianus. Not uncommon in the valley, and said to be yearly becoming more abundant.

Zenaidura macroura. Common summer visitor, arriving early in May.

Cathartes aura. Common, first seen late in March and within a week was abundant; breeds commonly.

Circus hudsonius. Common resident.

Accipiter velox. Rare summer visitor.

Accipiter cooperi. A pair seen at Beaver Meadows, July 9.

Accipiter atricapillus striatulus. Frequently seen during the autumn and winter; breeds.

[An adult male, taken March 11, is perfectly typical of the above form.—W. B.]

Buteo borealis calurus. Rather common in summer. Several were shot in and about the Fort where they kill many chickens.

Buteo swainsoni. Several taken in the spring; breeds.

Archibuteo lagopus sancti-johannis. Appeared early in November, and during the winter was very abundant on the marsh. The stomachs usually contained field mice.

Aquila chrysaëtos. A common resident, but hardly as numerous as the next species.

Haliæëtus leucocephalus. Common resident, especially numerous near the lake. All of the nests I found were placed at or near the tops of tall

dead pines. One nest near the Agency was built and occupied by Ospreys in 1886, and by a pair of these Eagles in 1887. Three nests examined between June 15 and 20 contained each two young nearly as large as the parents.

Falco peregrinus anatum. Resident and not uncommon.

[A female, shot March 16, 1887, has the top of head slaty brown, about uniform with the back, but Mr. Ridgway, who has examined the specimen, writes me that it is "not nearly dark enough for *F. p. pealei*," and adds, "we possess very much darker specimens from eastern localities."—W. B.]

Falco columbarius. A fine male was shot April 24 while chasing a Sparrow. Early in August many small dark-colored Hawks, probably *suckleyi* were observed along the shores of Diamond Lake, leisurely migrating southward in families of five and six.

[The male above referred to does not in the least approach *suckleyi* but, on the contrary, is rather paler than average eastern specimens of *columbarius*.—W. B.]

Falco sparverius. Common summer visitor, arriving early in April and nesting in Woodpecker holes near the tops of the highest pines.

Pandion haliaëtus carolinensis. Common, especially on Williamson's River.

Asio wilsonianus. Rather common. Their eggs are usually deposited in an old Magpie's nest.

Asio accipitrinus. Common in the marsh in autumn and winter. In one specimen a pellet ready for regurgitation contained ten nearly perfect skulls of a shrew, a species of which, and field mice, were nearly always found in the stomachs.

Nyctala acadica. A male taken in an open shed on February 21. About the middle of April the curious notes of this Owl were frequently heard just outside the Fort.

Megascops asio kennicotti? Heard on several occasions and well known to the settlers, but I was unable to obtain any specimens.

Bubo virginianus subarcticus? Rather common resident. No specimens obtained.

Glaucidium gnoma. Common resident. One captured February 21 had just struck at a Robin and was struggling with it on the ground. It is said to be especially abundant in summer at Modoc Point, and to feed upon a lizard that is common there; I have also found fragments of field mice in the stomachs. Insects, however, and especially grasshoppers, constitute the greater part of its food when they can be obtained; when the Owl is searching for these the smaller birds pay little attention to it, even if it happens to alight near them.

(*To be continued.*)

ADDITIONS TO THE AVIFAUNA OF WASHINGTON AND VICINITY.

BY HUGH M. SMITH AND WILLIAM PALMER.

SINCE the publication in 1883 of Drs. Coues and Prentiss's annotated list of the birds of the District of Columbia (Avifauna Columbiana — Bull. No. 26, U. S. Nat. Mus.), the number of species therein enumerated has been considerably augmented by the discovery of specimens in the National Museum and in private collections, of the existence of which these authors were apparently ignorant, and by the taking of specimens in more recent years that were, properly speaking, new. In 'Avifauna Columbiana' the names of 248 birds are given. To this number Messrs. Ridgway, Henshaw, and F. S. Webster have each added one species, and the writers six; and we are enabled at this time to cite the occurrence within our limits of twelve additional species and subspecies, and to increase by a species and a subspecies the fauna of the Atlantic slope of the United States.

Urinator lumme. — In the spring of 1882 a Red-throated Loon was caught in a gill-net in the Potamac River, a few miles below Washington, and is now in the possession of Mr. O. N. Bryan, of Marshall Hall, Maryland. This is the only known occurrence of the bird within our limits.

Pelecanus erythorhynchos. — There appear to be three well authenticated instances of the capture of this bird in our vicinity:—(1) near Alexandria, Va., April, 1864, collected by C. Drexler and presented to the Smithsonian Institution (No. 33,701); (2) opposite Washington, on the Virginia bank of the Potomac, fall of 1864, shot by John Ferguson, and seen and identified by several persons who have communicated the facts to us; (3) near Alexandria, Va., October, 1878, killed by John Huxhurst, and seen by a gentleman connected with the National Museum.

Porzana noveboracensis. — In the collection of the National Museum are two Yellow Rails, both of which were taken in the marshes of the Potomac River near Washington; the first (No. 80,297) by T. E. Clark, October 4, 1879, the second (No. 96,617) by A. Skinner, March 28, 1884.

Macrorhamphus scolopaceus. — Seven Long-billed Dowitchers were killed from a flock on the Anacostia River, D. C., in April, 1884, by a gunner who sold them in the market for Jack Snipe. One, similar to the others, was secured and mounted by one of the writers, and has been identified by Mr. Ridgway as the western species.

Ægialitis meloda circumcincta. — On May 3, 1884, a specimen of this species was obtained by A. Skinner on the shore of the Potomac River, opposite Washington, and is now in the National Museum.

Arenaria interpres. — Three Turnstones in the National Museum (Nos. 29,176, 29,177, 29,178) were taken in the District by C. Drexler in 1860 (?).

In June, 1882, Mr. J. A. Moore killed a bird at Jones's Point, Va., near Washington; in May, 1881, Mr. O. N. Bryan secured one and saw another at Marshall Hall, Md.; and we know of the occurrence of three others on the Potomac River, D. C., within the past few years.

Conurus carolinensis.—In September, 1865, while gunning for Sora on the Potomac River, Mr. Edward Derrick fired into a flock of strange birds flying overhead, killing several, which proved to be Carolina Paroquets. He had one mounted, and kept the specimen in his house for a number of years. Other parties on the marsh at the same time shot numbers of the birds. Descriptions furnished by Mr. Derrick and careful questioning by ourselves, leave no doubt as to the identity of the birds.

Contopus borealis. — The claims of this species to a place in our list rest upon Mr. Ridgway's observations near Fall's Church, Va., a few miles from this city, where several birds were noticed in September, 1881. Further west in Virginia the species cannot be considered very rare, individuals having been observed for three or four successive summers by one of the writers; and Dr. A. K. Fisher has taken a specimen in the Bull Run Mountains; these latter occurrences, however, are a considerable distance beyond our faunal limits.

Otocoris alpestris praticola. — Two Horned Larks in the collection of William Palmer have been identified by Mr. Henshaw as belonging to his race *praticola*. They were taken in February, 1881, and were in company with numbers of typical *O. alpestris*.*

Melospiza lincolni.—This Sparrow was added to our faunaby Mr. Henshaw, who collected three specimens in May, 1885 (Coll. H. W. H., Nos. 5621, 5622, 5623). William Palmer has taken two birds; and Mr. Ridgway has noticed the species on several occasions near Laurel, Md.

Dendroica kirtlandi. — A specimen of this bird, now in the National Museum (No. 111,878), was shot by William Palmer, September 25, 1887, on a wooded hilltop near Fort Myer, Va., in the same locality in which the collector had previously taken *Helminthophila leucobronchialis*. The bird was moving slowly about in the underbrush, and was at first thought to be the Yellow Palm Warbler, from the habit of jerking the tail characteristic of that species. Just one week later another bird of the same species was observed in this locality under such circumstances as to make the identification a surety. Kirtland's Warbler is new to the Atlantic slope of the United States, Cleveland, Ohio, we believe, being the easternmost limit of the range of the species hitherto recorded.

Seiurus noveboracensis notabilis. — Grinnell's Water-Thrush, as Mr. Ridgway informs us, has not been previously recorded from east of Illinois. He has, however, identified two specimens taken in Virginia, near Washington, on May 11, 1879, and May 5, 1885 (Coll. W. P., Nos. 620, 1376).

* On February 16, 1888, some months after these notes were sent to 'The Auk,' eighteen specimens of this variety were taken by William Palmer near Washington from a flock of fifty or sixty birds, that had been noticed in the vicinity throughout the winter. About half a dozen other specimens have recently been obtained by various collectors.

NOTES ON THE SUMMER BIRDS OF HOLDERNESS, BETHLEHEM, AND FRANCONIA, N. H.

BY WALTER FAXON AND J. A. ALLEN.

[THE following lists of birds observed in summer by Mr. Faxon form an interesting contribution to our knowledge of the distribution of the birds in the White Mountain region, supplementing in an important way the observations of Messrs. Maynard, Brewster, Minot, and Chadbourne. I have added thereto fragmentary notes made in 1874 in the same general region. My observations in Franconia were made in July, chiefly in the vicinity of Sugar Hill, several hundred feet above Franconia village; those in Bethlehem, in the early part of August.

Holderness, where observations were made by Mr. Faxon, is a few miles from Lake Winnipesaukee. This locality, as the list shows, is "near the border of the Alleghanian and Canadian Avifaunæ, although decidedly Alleghanian in its general character, the few characteristic Canadian birds found there being rare, *e.g.*, White-throated Sparrow, Yellow-rumped Warbler, Black-throated Blue Warbler, Snowbird, etc." (*Faxon*, in letter accompanying his lists). Bethlehem is more decidedly Canadian in its affinities.—J. A. A.]

List of Birds observed near Squam Lake, Holderness, N. H., June 4-12, 1885, and June 4-11, 1886. By Walter Faxon.

1. **Urinator imber.** LOON.—Common.
2. **Actitis macularia.** SPOTTED SANDPIPER.—Common.
3. **Bonasa umbellus.** RUFFED GROUSE.—Very common.
4. **Buteo borealis.** HEN HAWK.
5. **Haliæetus leucocephalus.** BALD EAGLE.—One individual seen.
6. **Coccyzus erythrophthalmus.** BLACK-BILLED CUCKOO. — Common.
7. **Ceryle alcyon.** KINGFISHER.—Common.
8. **Dryobates villosus.** HAIRY WOODPECKER.—Not common.
9. **Ceophlœus pileatus.** PILEATED WOODPECKER.—Rare. One seen.
10. **Colaptes auratus.** GOLDEN-WINGED WOODPECKER.—Common.
11. **Antrostomus vociferus.** WHIP-POOR-WILL.—Abundant.
12. **Chordeiles virginianus.** NIGHTHAWK.—Common.
13. **Chætura pelagica.** CHIMNEY SWIFT.—Common.
14. **Tyrannus tyrannus.** KINGBIRD.—Common.
15. **Myiarchus crinitus.** CRESTED FLYCATCHER.—Common.

16. **Sayornis phœbe.** PHŒBE.—Common.
17. **Contopus virens.** WOOD PEWEE.—Common.
18. **Empidonax minimus.** LEAST FLYCATCHER.—Common.
19. **Cyanocitta cristata.** BLUE JAY.—Not common.
20. **Corvus americanus.** CROW.—Abundant.
21. **Dolichonyx oryzivorus.** BOBOLINK.—Common.
22. **Agelaius phœniceus.** RED-WINGED BLACKBIRD.—Common.
23. **Icterus galbula.** BALTIMORE ORIOLE.—Not common.
24. **Carpodacus purpureus.** PURPLE FINCH.—Not common.
25. **Spinus tristis.** GOLDFINCH.—Not common.
26. **Poocætes gramineus.** BAY-WINGED BUNTING.—Very common.
27. **Ammodramus sandwichensis savanna.** SAVANNA SPARROW.—Not common.
28. **Zonotrichia albicollis.** WHITE-THROATED SPARROW.—Rare.
29. **Spizella socialis.** CHIPPING SPARROW.—Common.
30. **Spizella pusilla.** FIELD SPARROW.—Very common.
31. **Junco hyemalis.** SNOWBIRD. — Rare; found on summit of Beech Hill, about 1150 feet above sea level, with fledged young.
32. **Melospiza fasciata.** SONG SPARROW.—Common.
33. **Melospiza georgiana.** SWAMP SPARROW.—Rare.
34. **Pipilo erythrophthalmus.** TOWHEE.—Very common.
35. **Habia ludoviciana.** ROSE-BREASTED GROSBEAK.—Not common.
36. **Passerina cyanea.** INDIGO-BIRD.—Very abundant.
37. **Piranga erythromelas.** SCARLET TANAGER.—Common.
38. **Progne subis.** PURPLE MARTIN.—Common.
39. **Petrochelidon lunifrons.** CLIFF SWALLOW.—Common.
40. **Chelidon erythrogaster.** BARN SWALLOW.—Common.
41. **Tachycineta bicolor.** WHITE-BELLIED SWALLOW. — Not common.
42. **Ampelis cedrorum.** CEDAR-BIRD.—Common.
43. **Vireo olivaceus.** RED-EYED VIREO.—Very common.
44. **Vireo gilvus.** WARBLING VIREO.—Common near houses.
45. **Mniotilta varia.** BLACK-AND-WHITE CREEPER.—Common.
46. **Helminthophila ruficapilla.** NASHVILLE WARBLER. — Very common.
47. **Compsothlypis americana.** BLUE YELLOW-BACKED WARBLER. — Not common.
48. **Dendroica æstiva.** SUMMER YELLOW-BIRD.—Not common.
49. **Dendroica cærulescens.** BLACK-THROATED BLUE WARBLER. — Rare. One seen.
50. **Dendroica coronata.** YELLOW-RUMPED WARBLER. — Rare. One seen.
51. **Dendroica pensylvanica.** CHESTNUT-SIDED WARBLER.—Very abundant.
52. **Dendroica blackburniæ.** BLACKBURNIAN WARBLER.—Rare.
53. **Dendroica virens.** BLACK-THROATED GREEN WARBLER. — Common.
54. **Seiurus aurocapillus.** OVEN-BIRD.—Common.
55. **Seiurus noveboracensis.** WATER-THRUSH.—Not common.

56. **Geothlypis trichas.** MARYLAND YELLOW-THROAT.—Common.
57. **Sylvania canadensis.** CANADIAN WARBLER.—Rare.
58. **Setophaga ruticilla.** REDSTART.—Very abundant.
59. **Galeoscoptes carolinensis.** CATBIRD.—Common.
60. **Harporhynchus rufus.** BROWN THRASHER.—Common.
61. **Parus atricapillus.** CHICKADEE.—Common.
62. **Turdus fuscescens.** VEERY.—Common.
63. **Turdus aonalaschkæ pallasii.** HERMIT THRUSH.—Common.
64. **Merula migratoria.** ROBIN.—Common.
65. **Sialia sialis.** BLUEBIRD.—Common.

List of Birds observed in Franconia, N. H., June 11-21, 1886, and June 4 to August 1, 1887. By Walter Faxon.

1. **Actitis macularia.** SPOTTED SANDPIPER. — Common along the larger streams. Also seen on Echo Lake.
2. **Bonasa umbellus.** RUFFED GROUSE.—Common.
3. **Circus hudsonius.** MARSH HAWK.—Common.
4. **Coccyzus erythrophthalmus.** BLACK-BILLED CUCKOO. — Common.
5. **Ceryle alcyon.** BELTED KINGFISHER.—Rather common.
6. **Dryobates villosus.** HAIRY WOODPECKER.—Rare.
7. **Dryobates pubescens.** DOWNY WOODPECKER.—One specimen seen on Sugar Hill, Lisbon, near the Franconia line.
8. **Picoides arcticus.** ARCTIC THREE-TOED WOODPECKER. — One specimen seen on Mt. Lafayette, June, 1886.
9. **Sphyrapicus varius.** YELLOW-BELLIED WOODPECKER. — Very common. Commonest of the Woodpeckers.
10. **Colaptes auratus.** GOLDEN-WINGED WOODPECKER. —Rather common.
11. **Antrostomus vociferus.** WHIP-POOR-WILL.—Not very common.
12. **Chordeiles virginianus.** NIGHTHAWK.—Not common.
13. **Chætura pelagica.** CHIMNEY SWIFT.—Common.
14. **Trochilus colubris.** RUBY-THROATED HUMMINGBIRD.—But few seen.
15. **Tyrannus tyrannus.** KINGBIRD.—Common.
16. **Myiarchus cristatus.** CRESTED FLYCATCHER.—Rare.
17. **Sayornis phœbe.** PHŒBE.—Common.
18. **Contopus borealis.** OLIVE-SIDED FLYCATCHER.—Rather rare.
19. **Contopus virens.** WOOD PEWEE.—Not common.
20. **Empidonax flaviventris.** YELLOW-BELLIED FLYCATCHER. —Common. Inhabits deep, damp woods in the lower part of the town, and also found on the mountains to the height of 3600 feet.
21. **Empidonax pusillus traillii.** TRAILL'S FLYCATCHER. — Common, especially among the alders along the water courses.
22. **Empidonax minimus.** LEAST FLYCATCHER.—Common.
23. **Cyanocitta cristata.** BLUE JAY.—Common.
24. **Corvus americanus.** AMERICAN CROW.—Common.
25. **Dolichonyx oryzivorus.** BOBOLINK.—Common.
26. **Molothrus ater.** COWBIRD. — One seen by Mr. Bradford Torrey, June, 1887.

Agelaius phœniceus was found at Streeter's Pond in the adjoining town of Lisbon. None were seen in Franconia.

27. **Icterus galbula.** BALTIMORE ORIOLE.—Not common.

28. **Carpodacus purpureus.** PURPLE FINCH.—Common.

29. **Loxia curvirostra minor.** AMERICAN CROSSBILL.—Common.

30. **Loxia leucoptera.** WHITE-WINGED CROSSBILL.—A few seen, June, 1886.

31. **Spinus tristis.** AMERICAN GOLDFINCH.—Common.

32. **Spinus pinus.** PINE SISKIN.—Common in June, 1886.

33. **Poocætes gramineus.** BAY-WINGED SPARROW.—Abundant.

34. **Ammodramus sandwichensis savanna.** SAVANNA SPARROW.—Abundant.

35. **Zonotrichia albicollis.** WHITE-THROATED SPARROW.—Common.

36. **Spizella socialis.** CHIPPING SPARROW.—Common.

37. **Spizella pusilla.** FIELD SPARROW.—Common in dry pastures near the village.

38. **Junco hyemalis.** SNOWBIRD.—Abundant.

39. **Melospiza fasciata.** SONG SPARROW.—Abundant. Found breeding at the Eagle Lakes, Mt. Lafayette.

40. **Melospiza georgiana.** SWAMP SPARROW.—Rare.

41. **Passer domesticus.** HOUSE SPARROW.—One pair nesting in girder of the lowest bridge over the Gale River in the village, 1887. None seen in 1886.

42. **Habia ludoviciana.** ROSE-BREASTED GROSBEAK.—Not very common.

43. **Passerina cyanea.** INDIGO BUNTING.—Abundant.

44. **Piranga erythromelas.** SCARLET TANAGER.—Not very common.

45. **Progne subis.** PURPLE MARTIN.—A flock passed through the village, June 19, 1887. Apparently not breeding in the village.

46. **Petrochelidon lunifrons.** EAVE SWALLOW.—Common.

47. **Chelidon erythrogaster.** BARN SWALLOW.—Common.

48. **Tachycineta bicolor.** WHITE-BELLIED SWALLOW.—Common.

49. **Clivicola riparia.** BANK SWALLOW.—Common.

50. **Ampelis cedrorum.** CEDAR-BIRD.—Abundant.

51. **Vireo olivaceus.** RED-EYED VIREO.—Abundant.

52. **Vireo philadelphicus.** PHILADELPHIA VIREO.—One seen in the village throughout June and July, 1887.

53. **Vireo gilvus.** WARBLING VIREO.—A few in the village elms.

54. **Vireo solitarius.** BLUE-HEADED VIREO.—Not rare in deep woods.

55. **Mniotilta varia.** BLACK-AND-WHITE WARBLER.—Not common.

56. **Helminthophila ruficapilla.** NASHVILLE WARBLER.—Common.

57. **Helminthophila peregrina.** TENNESSEE WARBLER.—Two, June, 1887, in pastures above the Profile House Farm. Evidently nesting in the neighborhood.

58. **Compsothlypis americana.** BLUE YELLOW-BACKED WARBLER.—Common.

59. **Dendroica æstiva.** YELLOW WARBLER.—Rare.

60. **Dendroica cærulescens.** BLACK-THROATED BLUE WARBLER — Common.

61. **Dendroica coronata.** YELLOW-RUMPED WARBLER. — Common, especially at the higher levels.

62. **Dendroica maculosa.** BLACK-AND-YELLOW WARBLER.—Common.

63. **Dendroica pensylvanica.** CHESTNUT-SIDED WARBLER.—Common.

64. **Dendroica castanea.** BAY-BREASTED WARBLER. — Common in deep primitive woods, especially at high levels.

65. **Dendroica striata.** BLACK-POLL WARBLER. — Common in Franconia Notch up to tree limit on Mt. Lafayette. Rare in the lower part of the town.

66. **Dendroica blackburniæ.** BLACKBURNIAN WARBLER.—Common.

67. **Dendroica virens.** BLACK-THROATED GREEN WARBLER. — Common.

68. **Seiurus aurocapillus.** OVEN-BIRD.—Common.

69. **Seiurus noveboracensis.** WATER-THRUSH.—Rather common.

70. **Geothlypis philadelphia.** MOURNING WARBLER. — Two, one near the Profile House, the other near the village.

71. **Geothlypis trichas.** MARYLAND YELLOW-THROAT.—Common.

72. **Silvania canadensis.** CANADIAN WARBLER.—Common, especially at higher levels.

73. **Setophaga ruticilla.** AMERICAN REDSTART.—Common.

74. **Galeoscoptes carolinensis.** CATBIRD.—Common.

75. **Troglodytes hiemalis.** WINTER WREN.—Common.

76. **Certhia familiaris americana.** BROWN CREEPER.—Rare.

77. **Sitta carolinensis.** WHITE-BREASTED NUTHATCH.—Not very common.

78. **Sitta canadensis.** RED-BREASTED NUTHATCH.—Rare.

79. **Parus atricapillus.** CHICKADEE.—Not very common.

80. **Parus hudsonicus.** HUDSONIAN TITMOUSE. — Two seen on Mt. Lafayette, June 12, 1886, 3900 feet above sea.

81. **Regulus satrapa.** GOLDEN-CROWNED KINGLET.—Common in coniferous forest.

82. **Turdus fuscescens.** VEERY.—Very common.

83. **Turdus aliciæ bicknelli.** BICKNELL'S THRUSH.—Common on Mt. Lafayette, about the Eagle Lakes; also heard on Mt. Cannon.

84. **Turdus ustulatus swainsonii.** OLIVE-BACKED THRUSH.—Common at higher levels, and in deep woods about the village.

85. **Turdus aonalaschkæ pallasii.** HERMIT THRUSH.—Common.

86. **Merula migratoria.** AMERICAN ROBIN.—Common.

87. **Sialia sialis.** BLUEBIRD.—Not common.

Notes on Birds observed at Franconia and Bethlehem, N. H., in July and August, 1874. By J. A. Allen.*

1. **Bonasa umbellus.** Common.

2. **Ceryle alcyon.** Common.

* The species mentioned were seen at both localities, unless stated otherwise.

3. **Dryobates villosus.** Common.
4. **Dryobates pubescens.** Common.
5. **Sphyrapicus varius.** Common.
6. **Colaptes auratus.** But few seen.
7. **Chordeiles popetue.** Common.
8. **Chætura pelagica.** Common.
9. **Trochilus colubris.** Frequently seen.
10. **Tyrannus tyrannus.** Occasionally seen at both Franconia and Bethlehem.
11. **Myiarchus crinitus.** Two seen August 15 and 16, at Bethlehem.
12. **Contopus borealis.** Rather common.
13. **Contopus virens.** Common.
14. **Empidonax pusillus traillii.** Common.
15. **Cyanocitta cristata.** Common.
16. **Corvus americanus.** Abundant.
17. **Dolichonyx oryzivorus.** Abundant.
18. **Agelaius phœniceus.** Seen a few times.
19. **Icterus galbula.** Seen a few times at Bethlehem, Aug. 15 and later.
20. **Carpodacus purpureus.** Common.
21. **Loxia curvirostra minor.** Repeatedly observed at Bethlehem and vicinity.
22. **Spinus tristis.** Common.
23. **Poocætes gramineus.** Abundant.
24. **Ammodramus sandwichensis savanna.** Rather common.
25. **Zonotrichia albicollis.** Abundant at nearly all points above 1000 feet.
26. **Spizella socialis.** Common.
27. **Junco hyemalis.** Common, at least everywhere above 1000 feet.
28. **Melospiza fasciata.** Abundant.
29. **Habia ludoviciana.** Seen once at Bethlehem.
30. **Passerina cyanea.** Rather common.
31. **Petrochelidon lunifrons.** Abundant.
32. **Chelidon erythrogaster.** Abundant.
33. **Clivicola riparia.** Common.
34. **Vireo olivaceus.** Abundant.
35. **Dendroica cærulescens.** Common.
36. **Dendroica æstiva.** Frequent.
37. **Dendroica virens.** Common.
38. **Dendroica coronata.** Occasionally seen.
39. **Dendroica pensylvanica.** Common.
40. **Seiurus aurocapillus.** Common.
41. **Geothlypis trichas.** Common.
42. **Setophaga ruticilla.** Not common.
43. **Galeoscoptes carolinensis.** A few seen in the valley of the Ammonoosuc at Bethlehem, and a few on Gale River, in and near Franconia village, but none at higher elevations, and only a few in all.—*Harporhynchus rufus* was not noted.

44. **Troglodytes hiemalis.** Frequent about Franconia.
45. **Troglodytes aëdon.** Seen a few times at Franconia.
46. **Parus atricapillus.** Common.
47. **Turdus fuscescens.** Seen a few times near Franconia village.
48. **Turdus aonalaschkæ pallasii.** Common.
49. **Merula migratoria.** Rather common.
50. **Sialia sialis.** Occasionally seen; not common.

THE BIRDS OF THE WEST INDIES, INCLUDING THE BAHAMA ISLANDS, THE GREATER AND THE LESSER ANTILLES, EXCEPTING THE ISLANDS OF TOBAGO AND TRINIDAD.

BY CHARLES B. CORY.

[*Concluded from p. 82.*]

FAMILY PODICIPIDÆ.

GENUS **Podiceps** LATH.

Podiceps LATHAM, Ind. Orn. II, p. 780, 1790.

Podiceps dominicus (LINN.).

Colymbus dominicus LINN. Syst. Nat. I, p. 223 (1766).—GUNDL. J. f. O. 1856, p. 430 (Cuba).

Colymbus dominicensis D'ORB. in La Sagra's Hist. Nat. Cuba, Ois. p. 282 (1840).

Podiceps dominicus GOSSE, Bds. Jam. p. 440 (1847).—SALLÉ, P. Z. S. 1857, p. 237 (San Domingo).—SCL. P. Z. S. 1861, p. 82 (Jamaica).—MARCH, Pr. Acad. Nat. Sci. Phila. 1864, p. 70 (Jamaica).—GUNDL. Repert. Fisico-Nat. Cuba, I, p. 386 (1866).—BRYANT, Pr. Bost. Soc. Nat. Hist. XI, p. 97 (1867) (San Domingo).—GUNDL. J. f. O. 1875, p. 365 (Cuba); *ib.* Anal. Soc. Esp. Hist. Nat. VII, p. 395 (1878) (Porto Rico).—CORY, Bds. Bahama I. p. 222 (1880).—A. & E. NEWTON, Handb. Jamaica, p. 117 (1881).—CORY, Bds. Haiti & San Domingo, p. 185 (1885); *ib.* List Bds. W. I. p. 34 (1885).

Sylbeocyclus dominicus BREWER, Pr. Bost. Soc. Nat. Hist. VII, p. 308 (1860) (Cuba).

Podilymbus dominicus TAYLOR, Ibis, 1864, p. 172 (Porto Rico).

WINTER PLUMAGE, *Male* : — Above dark brown with slight greenish reflections; sides of the head and throat ashy gray, continuous in a broad band around the neck; underparts silky white, mottled with dusky; outer primaries showing chocolate-brown, the others and secondaries white.

Length, 9.35; wing, 3.60; tarsus, 1.24; bill, .85.

HABITAT. Bahamas and Greater Antilles.

Colymbus holboellii (Reinh.) is included by Mr. Wells in his list of the birds of Grenada (*Podiceps holbolli?* Wells, List of the Birds of Grenada, p. 12, 1886) but is probably some other species wrongly identified.

GENUS **Podilymbus** LESS.

Podilymbus LESSON, Traité d'Orn. I, p. 595 (1831).

Podilymbus podiceps (LINN.).

Colymbus podiceps LINN. Syst. Nat. I, p. 223 (1766). — SUNDEV. Oefv. K. Vet. Acad. For. 1869, p. 603 (Porto Rico).

Colymbus carolinensis D'ORB. in La Sagra's Hist. Nat. Cuba, Ois. p. 285 (1840).

Podilymbus carolinensis GOSSE, Bds. Jam. p. 438 (1847).

Sylbeocyclus carolinensis GUNDL. J. f. O. 1856, p. 431 (Cuba).—BREWER, Pr. Bost. Soc. Nat. Hist. VII, p. 308 (1860) (Cuba).

Podilymbus podiceps SCL. P. Z. S. 1861, p. 82 (Jamaica).—MARCH, Pr. Acad. Nat. Sci. Phila. 1864, p. 70 (Jamaica). — GUNDL. Repert. Fisico-Nat. Cuba, I, p. 386 (1866); *ib.* J. f. O. 1875 p. 367 (Cuba). LAWR. Pr. U. S. Nat. Mus. I, p. 488 (1878) (St. Vincent and Grenada); *ib.* p. 242 (Barbuda).—GUNDL. Anal. Soc. Esp. Hist. Nat. VII, p. 397 (1878) (Porto Rico).—SCL. P. Z. S. 1879, p. 765 (Montserrat).—A. & E. NEWTON, Handb. Jamaica, p. 117 (1881).—CORY, List Bds. W. I. p. 34 (1885). — WELLS, List Bds. Grenada, p. 12 (1886).

Numerous West Indian records.

APPENDIX.

Since this paper was written the following species and subspecies have been added to the West Indian Avi-fauna.

Mimocichla ravida CORY. Grand Cayman.
CORY, Auk, III, p. 499, 1886.

Margarops montanus albiventris (LAWR.). Grenada.
LAWR. Ann. N. Y. Acad. Sci. IV, p. 23, 1887.

Margarops montanus rufus CORY. Dominica.
CORY, Auk, V, p. 47, 1888.

Rhamphocinclus sanctæ-luciæ CORY. St. Lucia.
CORY, Auk IV, p. 97, 1887.

Polioptila cærulea cæsiogaster RIDGW. Bahamas.
RIDGW. Man. N. A. Bds. p. 569, 1887.

Thryothorus guadeloupensis CORY. Grand Terre, Guadeloupe.
CORY, Auk, III, p. 381, 1886.

Dendroica vitellina CORY. Grand Cayman.
CORY, Auk, III, p. 497, 1886.

Geothlypis coryi RIDGW. Eleuthera Island.
RIDGW. Auk, III, p. 334, 1886.

Geothlypis tanneri RIDGW. Abaco, Bahamas.
RIDGW. Auk, III, p. 335, 1886.

Certhiola sharpei CORY. Grand Cayman.
CORY, Auk, III, p. 497, 1886.

Vireo alleni CORY. Grand Cayman.
CORY, Auk, III, p. 500, 1886.

Vireo caymanensis CORY. Grand Cayman.
CORY, Auk, IV, p. 6, 1887.

Vireo crassirostris flavescens RIDGW. Bahamas.
RIDGW. Man. N. A. Bds. p. 476, 1887.

Calliste cucullata SWAINS. Grenada.

Spindalis salvini CORY. Grand Cayman.
CORY, Auk, III, p. 499, 1886.

Spindalis zena townsendi RIDGW. Abaco I., Bahamas.
RIDGW. Proc. U. S. Nat. Mus. Vol. X, p. 3, 1887.

Loxigilla barbadensis CORY. Barbadoes.
CORY, Auk, III, p. 382, 1886.

Loxigilla richardsoni CORY. St. Lucia.
CORY, Auk, III, p. 282, 1886.

Volatina jacarina (LINN.). Grenada.
WELLS, List Bds. Grenada, p. 3, 1886.

Spermophila gutturalis LICHT. Grenada.
WELLS, List Bds. Grenada, p. 3, 1886.

Icterus bairdi CORY. Grand Cayman.
CORY, Auk, III, p. 500, 1886.

Quiscalus caymanensis CORY. Grand Cayman.
CORY, Auk, III, p. 499, 1886.

Elainea barbadensis CORY. Barbadoes.
CORY, Auk, V, p. 47, 1888.

Elainea pagana (LICHT.). Grenada.

Myiarchus denigratus CORY. Grand Cayman.
CORY, Auk, III, p. 500, 1886.

Blacicus flaviventris LAWR. Grenada.
LAWR. Proc. U. S. Nat. Mus. IX, p. 617, 1887.

Blacicus martinicensis CORY. Martinique.
CORY, Auk, III, p. 96, 1886.

Milvulus tyrannus (LINN.). Grenada.
WELLS, List Bds. Grenada, 1887.

Chætura cinereiventris SCLATER. Grenada.
WELLS, List Bds. Grenada, p. 4, (1886).

Chætura brachyura (JARDINE). St. Vincent and Grenada.
Chætura poliura CORY, Ibis, p. 473, 1886.

Centurus caymanensis CORY. Grand Cayman.
CORY, Auk, III, p. 499, 1886.

Centurus nyeanus RIDGW. Wattlings I., Bahamas.
RIDGW. Auk, III, p. 336, 1886.

Centurus blakei RIDGW. Abaco, Bahamas.
RIDGW. Auk, III, p. 337, 1886.

Colaptes gundlachi CORY. Grand Cayman.
CORY, Auk, III, p. 498, 1887.

Coccyzus maynardi RIDGW. Bahama Islands.
RIDGW. Man. N. A. Bds. p. 274, 1887.

Chrysotis caymanensis CORY. Grand Cayman.
CORY, Auk, III, p. 502, 1886.

ON THE AVI-FAUNA OF PINAL COUNTY, WITH REMARKS ON SOME BIRDS OF PIMA AND GILA COUNTIES, ARIZONA.

BY W. E. D. SCOTT.

With annotations by J. A. Allen.

(*Concluded from p. 36.*)

217. **Anthus pensilvanicus.** AMERICAN PIPIT. — A not uncommon migrant throughout the region and some probably winter on the plains about Tucson and south of that point. I have records of their occurrence in the Santa Catalina Range, altitude 5000 feet, in October and early November, and in March. It was common in flocks on the San Pedro River in March, 1885, at the mouth of Pepper Sauce Cañon.

[Of the four specimens sent, three are in adult spring plumage. One has the dusky streaks on the breast unusually broad and dark. — J. A. A.]

218. **Oroscoptes montanus.** SAGE THRASHER.—A common fall migrant in the Pinal Mountains; common migrant and winter resident in small numbers on the foothills of the Catalinas up to 3500 feet. My records of its occurrence are December, rare; January, rather common; February, common; March, abundant. In April they begin to leave, and I did not observe any during the other months of the year.

219. **Mimus polyglottos.** MOCKINGBIRD.—A common resident throughout the region up to an altitude of 5000 feet, but more abundant during the

spring migration and in the summer season. In the Catalina Range they are abundant at all times, save in midwinter, up to the altitude indicated, and breed in numbers, raising three broods of three to five young each, during the spring and early summer months. The first brood is hatched by late April or early May, and the final brood late in July or the first week in August.

In this connection some experience that I had with young of this species may be of interest. About May 20, 1885, I captured a young Mockingbird which could fly short distances pretty well. It was probably four weeks old. It soon became accustomed to the cage, which was a large one, and ate readily from the hand or from the feed cups. By the time it had become fully tamed, about ten days or two weeks after it was captured, two other young birds were obtained from a nest. They were pretty well feathered, but the tails and wings were not at all grown, and the little fellows knew nothing about feeding themselves. By this time the bird first captured was fully feathered and grown, being very like an old bird in everything save some details of plumage. The younger birds were put in the same cage with the one first captured. I fed the birds largely on grasshoppers, which were very abundant. From the time that the younger birds entered the cage, they opened their mouths very wide, and made a twittering sound whenever the older birds seized on one of the insects to kill and eat it. After the first twenty-four hours, the elder bird seemed to realize that certain duties devolved upon it, and began to feed and care for the younger birds with the solicitude of a parent. This was continued for a couple of weeks, when the small birds had learned to feed themselves. May not this be considered as either an instance of considerable mental capacity, or a strongly inherited parental instinct?

[Mr. Scott's series of seven adult birds are very much lighter above than specimens from the Atlantic States, with generally more white on the tail feathers, and always much more white on the wings, the white area on the inner primaries being one-fourth to one-third greater than in Florida and South Carolina birds. The white wing-bars are broader, the secondaries are much more broadly tipped with white, and the white is much purer; the primaries are *all*, in some specimens, narrowly tipped with pure white—a feature absent in the eastern bird—and the outer edge of all the remiges and greater coverts is more broadly bordered with a much lighter shade of gray. The throat is white, and the lower parts generally are of a much lighter shade. The white of the tail is a clearer, more snowy white —not silvery or grayish white, as is usually the case in eastern birds; the fourth feather often has a blotch of white at the end. The gray of the upper parts is very much lighter in the Arizona birds, this difference being a striking feature. In size and proportions there seems to be no tangible difference, the tail being not disproportionately longer in the western bird. This form is therefore not identical with the bird from Lower California Professor Baird at one time proposed to call *Mimus caudatus*, although this name has been used to designate the Mockingbird as found in Arizona (*Coues*) and Colorado (*Ridgway*).

Mr. Sennett's specimens from Texas agree very closely in general features with the Scott birds from Arizona.—J. A. A.]

220. **Harporhynchus bendirei.** BENDIRE'S THRASHER.—On the plains about Tucson and to the southward, this species is resident, but even here there seems to be a very considerable migration, as the birds are much more common in the spring and during the breeding season than during the late fall and winter months.

I also observed the birds to be quite common in the vicinity of Florence during the warmer months.

In the foothills of the Catalinas the birds were not resident but were present for about eight months of the year, and were quite common during the breeding season, though they did not range above 4000 feet. Here they arrive early in March, the 7th of that month being the earliest record made, and begin mating and nesting almost at once. The earliest nests with eggs that I recorded was on March 28, and the eggs were partly incubated. On the 20th of May there were many young birds fully grown, and some of the parent birds were nesting a second time. The young birds, as soon as they are fully grown, begin to congregate in companies, often being associated with one or two *H. curvirostris palmeri* and *H. crissalis*. I have seen forty or fifty young Thrashers, mostly *bendirei*, together in such a flock in late May and early June. At such times the birds seek a somewhat higher altitude, as high as five thousand feet, and affect thickets of low oaks and juniper.

The old birds are at all times shy and wary and difficult to approach, even when nesting. The song of the male is particularly beautiful, and is to be compared with the best efforts of the Mockingbird.

The period of song seems to begin very early in the season with all three species of Thrashers that I have observed here. *H. crissalis* is frequently to be heard in late December in the Catalinas, and in January they are in full song, while *palmeri* is in song late in January, and *bendirei* is in full song on its arrival.

221. **Harporhynchus curvirostris palmeri.** PALMER'S THRASHER.—Wherever the cholla, a kind of very prickly and repellant cactus, is found in this region, there one is almost sure to find these Thrashers. They are common residents but do not, so far as I am aware, range much above 3000 feet in altitude on the sides of the mountain ranges. I found them in the Catalinas, at about this altitude, the year round, though they were not quite as abundant in winter as at other times. Here they begin to nest early in March, and by the middle of the month are breeding generally. Three eggs is the usual number in a clutch, though I have found four on rare occasions, and two not infrequently form the set. Rarely only one egg is laid. Two broods are generally raised here. These birds do not sing nearly as much after nesting has begun as they do for the six weeks preceding the laying of the first set of eggs. Near Tucson the breeding season begins fully a month earlier than on the San Pedro slope of the Santa Catalinas.

222. **Harporhynchus crissalis.** CRISSAL THRASHER.—This species is

apparently a resident, though not so abundant as either of the last, throughout the region. In the Catalinas I found it ranging up as high as five thousand feet, and in the Pinals, though not so common as in the Catalinas, it had about the same distribution. It is not nearly so pronounced a cactus species as either of the others, but seems to be equally if not more at home on the rough hill-sides where there is a low dense growth of a kind of juniper and some mesquite.

They breed about the same time as Bendire's Thrasher, or perhaps a little earlier, as I found eggs in the Catalinas during the first week in April that were about ready to be hatched, and have taken young fully fledged as early as May 1. In the fall I have noticed the species feeding on juniper berries and other small fruits.

223. **Campylorhynchus brunneicapillus.** CACTUS WREN.—Throughout the region this is a common resident species, breeding in numbers and raising at least two and sometimes three broods. They are seldom found above 4000 feet on the foothills of the several mountain chains traversing the Territory. While seeming to prefer the cholla cactus country, especially during the breeding time, yet I have found their nests commonly in cat-claw and thick mesquite bushes. The first eggs are laid in the Catalina region as early as March 20, and the broods vary from three to five in number.

224. **Salpinctes obsoletus.** ROCK WREN.—The Rock Wren is a more or less abundant species in the several counties here considered, but is not nearly so common during the winter as at other times of the year. In the mountains it ranges occasionally up to at least 8500 feet, though it is perhaps most abundant between 3000 and 5000 feet. They begin to breed in the Catalinas about the middle of March, and are in song by the last of January. Six or eight young are the common inmates of a nest. Two broods are raised. The nest is on the ground in some hole, or more frequently under a rock.

225. **Catherpes mexicanus conspersus.** CAÑON WREN—The rocky cañons of the mountains in the region under consideration are the home of this species, which, so far as I am aware, is resident up to at least 5000 feet the year round. In the summer this range is extended to the higher altitudes. (See Auk, Vol. II, No. 4, p. 350, October, 1885.) The species is not a very common one, it being rather unusual to see more than a pair in the same neighborhood, but wherever they occur, and at every season of the year, particularly in the early spring, the birds are very conspicuous by their song, spoken of in the above reference.

Their nesting methods are very different from those of the species just considered. In the Catalinas I took in all half a dozen nests that were built much like the nest of the Phœbe (*Sayornis phœbe*), the same thick, heavy walls, rather soft and covered with green moss on the outside characterizing the structure, and the inside cavity not so broad or shallow as in the case of the Phœbe. The nest is generally placed in some deserted tunnel or cave, and at times in unused buildings. It is found more frequently on some projecting ledge or shelf, and rarely in some cranny or hole that

will scarcely permit the old birds to enter. The eggs are from four to six in number, and three broods are generally reared each season.

226. **Thryothorus bewickii murinus.** BAIRD'S WREN.—This species was obtained in the Catalinas and also in the Pinal Mountains, at both of which localities it appears to be resident, ranging up to about six thousand feet, and apparently preferring the evergreen oak region.

The only nests that I have found have been built in natural hollows or deserted Woodpeckers holes in live oak trees.

I noticed the species on the San Pedro River in winter, and Mr. Brown has found it not uncommon about Tucson during the colder portion of the year.

[Fifteen specimens from Arizona represent the extreme grayish form of this subspecies, differing as much in the general color of the upper parts from a similar series from Southern Texas in Mr. Sennett's collection as do the Arizona Mockingbirds from the Mockingbirds of the Atlantic States. —J. A. A.]

227. **Troglodytes aëdon parkmanii**? PARKMAN'S WREN.—It is apparent that two forms of House Wren occur in this region. That which I take to be the true *parkmanii* is migratory and not nearly as common as the form that I described in this journal (Vol. II, p. 351), under the name of *T. aëdon marianæ*. The only example of the form known as the *parkmanii* is catalogued as No. 1075, ♂, 8th October, 1885, and was taken near my house in the Catalinas, and several specimens of House Wren taken by Mr. Herbert Brown near Tucson in the fall and winter months.

228. **Troglodytes aëdon marianæ**? MARIAN'S WREN.—The other House Wrens that were obtained I must again refer to a form undescribed until published in this journal, as above.

They were all obtained in the Catalinas, and with a few exceptions in the pine forest region, where they were breeding and quite abundant in April, 1885. The birds are migrants and summer residents in the pine forests of the Santa Catalinas above 10,000 feet.

[In Mr. Scott's series of thirteen specimens are two only in fall plumage, namely, No. 773, ♂, Catalina Mill, Sept. 1, 1884, and No. 1075, ♂, same locality, Oct. 8, 1884. These look quite different from the others, which were taken in April (Apr. 19-24, 1885), in the "pine region" of the Santa Catalina Mountains, at the beginning of the breeding season. In the light of much material additional to that examined when I penned my note endorsing Mr. Scott's *T. aëdon marianæ* (Auk, Vol. II, p. 351, footnote), I am now compelled to consider the differences noticed by Mr. Scott as mainly seasonal, and the entire series of specimens as referable to the form which has for many years been called '*parkmanii*.' The *marianæ* series, however, is pretty uniformly and appreciably lighter in color than the average of specimens from the middle region of the continent, representing apparently the extreme degree of pallor of the pale interior race.

Finding it desirable to again review the subject in the present connection, I have been at the trouble to bring together a large amount of material (about 120 specimens), Mr. Ridgway having kindly sent me for

examination the '*parkmanii*' series (over 50 specimens) in the National Museum. Unfortunately, however, the moist Northwest Coast region is poorly represented in the series. But the material at hand seems to indicate that three forms may be fairly well distinguished, as follows:

1. **T. aëdon.** The eastern form (*aëdon* proper) is apparently restricted mainly to the Atlantic coast region, from Northern New England to Florida. It is characterized by the dark heavy tone of its colors, the brown of the dorsal region being dull umber brown, strongest or most ferrugineous on the lower back and rump; back usually with faint darker bars, sometimes strongly developed, occasionally obsolete.

2. **T. aëdon parkmanii.** The true *parkmanii* is a Northwest Coast form, typically represented in the coast region of Oregon and Washington Territory, and less typically southward along the coast to Lower California. Differs from true *aëdon* principally in the lighter or more tawny brown of the upper parts. Light Atlantic coast birds are not certainly distinguishable from dark Pacific coast birds, though separated by not only the whole breadth of the continent, but by a paler, easily recognized form occupying the intermediate region.

Audubon's "single specimen" of his "*Troglodytes Parkmanii*" was sent to him "by Dr. Townsend, who procured it on the Columbia River" (Orn. Biog. V, 1839, p. 310). This specimen, still extant in the National Museum, is now before me. It is No. 66,644, and bears what appears to be the original label, probably in Dr. Townsend's hand-writing. It reads (literally transcribed) as follows: "Troglodytes Americana (Aud.)-Wood Wren-(Audubon Biogr. Vol. II, pag. 452. Plate CLXXIX. Male, Columbia River, June, 1835." On the accompanying National Museum label is written "Type of *Troglodytes parkmanii*. Aud. 'Columbia River,' J. K. Townsend." It is practically identical in coloration with Fort Steilacoom specimens (Nos. 7135-7137), and others from Northern California.

3. **T. aëdon aztecus.** Lighter (more ashy) and paler throughout than even true *parkmanii*, the brown of the upper parts especially being lighter, and the anterior half of the dorsal surface decidedly ashy instead of brown, contrasting strongly with the rest of the dorsal surface. Dark and light barring of the back rather stronger and more constant than in either of the other two forms. Rather smaller, with smaller bill. Reaches its extreme phase of pale colors and small size in Arizona and the Rio Grande border of Texas. Its habitat may include, however, the whole arid interior. The specimens from the Mississippi and Ohio Valleys are also referable to it rather than to *aëdon* proper.

The small, pale Arizona and Rio Grande birds seem to correspond exactly with Baird's var. *aztecus* (Rev. Am. Bds., 1864, p. 139), from Eastern Mexico, which has been of late commonly referred to '*parkmanii*.'

At all localities there is a wide range of individual variation, particularly in general size, and in the size of the bill; also more or less in coloration, especially in the barring of the plumage, both above and below. Young and autumnal birds are also browner and darker than birds taken in the breeding season. This somewhat masks the variation characteristic of

particular localities. Florida specimens of the eastern form are, however, in the average, smaller and darker than specimens from Pennsylvania and New York. Southern specimens of the Pacific coast form are smaller and *lighter*, with smaller bill, than specimens from the coast region of Oregon and Washington Territory. Yet one of the Fort Steilacoom specimens (a 'bird of the year') has as small a bill as any in the series. The Arizona birds are especially characterized, as a series (15 specimens), by small size, a very small bill, and excessively pale colors, with the anterior half of the dorsal surface decidedly ashy. They can be very closely matched, however, by specimens from Nueces and Presidio Counties, Texas, and by occasional specimens from Colorado and Nebraska. Mr. Sennett's specimens from the Rio Grande Valley, Texas, though averaging larger than Arizona specimens, more closely resemble them than do any similar series from elsewhere. Mississippi Valley specimens show less ashy on the anterior dorsal surface than is seen in the Lower Texas and Arizona birds.

The distinctness of the barring, both above and below, varies in all the forms, being sometimes strongly developed and sometimes obsolete in specimens from the same locality. As already said, it is rather more pronounced and constant in the *aztecus* form than in the others. Though the barring is perhaps least marked in the Atlantic coast form, the most strongly barred specimen in the whole series is from Long Island, N. Y. —J. A. A.]

229. **Cistothorus palustris.** LONG-BILLED MARSH WREN. — Obtained by Mr. Herbert Brown near Tucson, where I have also noted it on one occasion in the early springtime.

[Doubtless var. *paludicola*.—J. A. A.]

230. **Certhia familiaris mexicana.** MEXICAN CREEPER. — The only notes made on this species are based on a specimen taken in the pine forests of the Catalinas, April 23, 1885. For further details see Auk, Vol. II, No. 4, p. 350, October, 1885.

231. **Sitta carolinensis aculeata.** SLENDER-BILLED NUTHATCH.—This Nuthatch is a common resident in the pine woods and higher altitudes, and a migrant throughout the district. Mr. Brown regards it as rare immediately about Tucson.

It was a rather common migrant in fall, and winter resident in small numbers in the region about my house in the Catalinas. In spring I rarely saw it here. For reference to its occurrence in the pine woods of this main range see Auk, Vol. II, pp. 172 and 349.

232. **Sitta canadensis.** RED-BREASTED NUTHATCH.—The only record made of the occurrence of this species is a female (No. 2819) taken near my house, Santa Catalina Mountains, altitude 4500 feet, 29th October, 1885. This, so far as I am aware, is the second record of the capture of the species in Arizona Territory, where it is apparently rare.

233. **Sitta pygmæa.** PYGMY NUTHATCH. — This species was only noticed in the pine forests of the Pinal and Santa Catalina Mountains, at each of which points it is resident. For further account of the species in the Catalinas see this journal, Vol. II, pp. 172 and 350.

234. **Parus wollweberi.** BRIDLED TITMOUSE.—This Titmouse I found to be a rather common resident in the evergreen oak region of both the Pinal and Santa Catalina Mountains. For an account of its breeding habits see my paper 'On the Breeding Habits of Some Arizona Birds' (Auk, Vol. III, No. 1, Jan., 1886, pp. 84-86; see also Vol. II, No. 4, p. 349, Oct. 1885).

235. **Psaltriparus plumbeus.** LEAD-COLORED BUSH-TIT.—This species is resident in the Catalinas up to at least 7500 feet, but is most abundant in the fall months, congregating often in flocks of from twenty-five to a hundred individuals.

I found a nest that had just been completed near my house late in May, 1885, but the old birds, becoming alarmed, deserted their home and no eggs were laid. The only other point where I have met with this bird is in the Pinal Mountains, near Mineral Creek, where it was also resident.

236. **Auriparus flaviceps.** VERDIN.—Noted throughout the entire region up to an altitude of 4000 feet; resident and breeding wherever it occurred. In the Catalina range, altitude 3500 feet, I found a nest with fresh eggs May 20, 1885, and at Riverside, at a considerable lower elevation, I found the birds breeding late in April.

The particular cover most affected by the birds is dense growths of mesquite and cat-claw, and the nests are placed so as to be best protected by the thorns of such trees and bushes.

237. **Regulus calendula.** RUBY-CROWNED KINGLET. — In the Santa Catalinas, in the evergreen oak belt, this species is a common migrant and winter resident, arriving in fall about the last week in September and being thus very common. Some winters, and in the spring, the numbers are again largely augmented, being most abundant about March 1 to 10, and remaining till the first week in April. I have also observed the species about Tucson and in the valley of the San Pedro River in winter and early spring.

238. **Polioptila cærulea.** BLUE-GRAY GNATCATCHER.—The Blue-gray Gnatcatcher is present in some parts of the region during the entire year, but is not found in winter much above the altitude of the great plains and mesas — about 2000 to 2300 feet. It breeds commonly in the Santa Catalinas, and even at high altitudes. (See Auk, Vol. II, No. 4, p. 349, October, 1885.)

239. **Polioptila plumbea.** PLUMBEOUS GNATCATCHER. — This Gnatcatcher is a common resident species about Tucson and in the valley of the San Pedro River. It ranges during the entire year up to an altitude of about 4000 feet, in the foothills of the Santa Catalinas, where I have found it more abundant than at any other point visited by me.

A large series collected here very clearly shows the transition from the lead-colored to the fully black-capped phase of plumage. This latter phase of plumage is that of the male birds only, and is assumed for about three months in the year. It begins to be apparent about the middle of February, but the full black cap and tail is attained slowly, the first seen in this condition being taken March 10. During the succeeding three months

this plumage is retained and in July another moult makes all the birds gray or lead-colored again. Though so common a form I was unable to find nests, but have taken young fully fledged during the first week in June.

240. **Myadestes townsendii**. TOWNSEND'S SOLITAIRE.—My notes on this species are from Mineral Creek, in the Pinal Mountains, where it was not uncommon during late October and part of November, 1882. In the Santa Catalinas it was rather a rare species in spring, fall, and winter, and I did not observe it during the warmer portion of the year. I also observed it as a rare species in the pine forests of the Catalinas from November 3 to 8, 1885.

241. **Turdus fuscescens salicicolus**. WILLOW THRUSH. A single specimen (female) was taken by Mr. Herbert Brown at Tucson, early in May, 1882. No others have come under my notice. The specimen is now in my collection (No. 4073).

242. **Turdus aonalaschkæ**. DWARF HERMIT THRUSH.—A common winter resident in the Catalina region, altitude 4500 feet. The earliest record is October 27, and the latest March 14. Mr. Brown has taken it about Tucson in January.

243. **Turdus aonalaschkæ auduboni**. AUDUBON'S HERMIT THRUSH.—Not common. Probably the resident form, although the only specimens taken were obtained in spring, as follows: No. 2022, ♂, March 30, 1885; No. 2234, ♀, April 22, 1885; No. 2350, ♀, April 30, 1886.

[In a series of over 30 specimens of Hermit Thrushes in the Scott Collection only three are referable to var. *auduboni*. The others are all strictly referable to *aonalaschkæ*.—J. A. A.

244. **Merula migratoria propinqua**. WESTERN ROBIN.—This form of the Robin I found to be a regular fall, winter, and early spring resident in the Catalinas, altitude 3500 to 6000 feet. They arrive here in the fall about November 1, and are soon quite common in small flocks or companies. All through the winter they are more or less common, but towards spring their numbers seem to be very considerably increased, and they are quite common until late in March, and are to be seen sparingly during the first week in April. I have frequently heard the males beginning to sing before they left this point, and on one occasion a single Robin was noted May 5, 1885.

I have observed the species in the pine forests of the Catalinas in November, and on the San Pedro River in January. They are, though regular visitors, much more abundant some seasons than others, and were especially common during the winter of 1885-86.

245. **Sialia mexicana**. WESTERN BLUEBIRD.—A common migrant on the foothills of the mountain ranges, where it is a winter resident. The lowest altitude where I have met them is on the San Pedro River, in January, 1886. They also breed in small numbers in the Catalinas, as I took a young bird of this species on July 4, 1884, altitude 5000 feet. (Also see Auk, Vol. II, No. 4, p. 349, Oct. 1885.) In the same locality the birds appear in flocks about the middle of October and remain until the last of March.

246. **Sialia arctica.** MOUNTAIN BLUEBIRD.—An irregular visitor in fall and winter in the foothills of the Catalinas, which is the only point where I have observed them. In the winter of 1885-86 they were abundant in large flocks, feeding on the seeds of the mistletoe and the hackberry tree. This was the only season when they were present in numbers, and the only other reference in my notes to the species is in the same locality on December 15, 1884, when a flock of fifteen birds were noted, and were all that were seen.

A DESCRIPTION OF AN APPARENTLY NEW SPECIES OF *TROCHILUS* FROM CALIFORNIA.

BY J. AMORY JEFFRIES.

Trochilus violajugulum, sp. nov.

SP. CHAR. (♂ *ad.* Type No. 1616 of my collection). Upperparts metallic green and gold becoming dull on the forehead; gorget violet with a tendency to steel blue at the feather tips; chin and line between gorget and eyes dull; a dull gray belt across breast behind gorget. Sides dull metallic green; flanks less green, the feathers being tipped with brown; ventral median line dullish. Wings dark with an obscure purple glow; an imbricated buff line along the anterior edge of the manus; coverts dull metallic green. Primaries broad to tip, that of the first curved back, graduated in length from first to last. Tail slightly forked; feathers broad, except the last pair, which are abruptly narrow and linear; shafts of the outer pair forming, at the junction of the first and second third, an abrupt angle of 25°. Middle feathers and base of second pair metallic green; rest dark with a distinct purple hue. Under tail-coverts white with metallic green central spots.

Length about 3.60; wing, 1.82; tail, 1.18; bill about .75.

Habitat. Santa Barbara, Cal.

This specimen was shot April 5, 1883, in a bushy field at the base of the flower belt, well up the foothills. The distal end of the upper mandible was shot away.

The bird is roughly like a *T. anna* without a crown patch or ruff, and with violet for sapphire. The tail is of the same type as in *T. anna*, but smaller, and the angle spoken of is less than 25° instead of 33°, so that in the closed tail the outer pair of feathers overlap instead of crossing as in *T. anna*. This peculiar

angle of the shaft in *T. anna* is not mentioned in the description nor shown in the cuts of the tail, being concealed by the coverts. It seems to be peculiar to my specimen and the Anna Hummingbird.

From *T. alexandri* it is distinguished by its larger size, broad primaries, and all the peculiarities of the tail.

As but one specimen was procured, it might be a hybrid possibly between *T. alexandri* and *T. lucifer*, but this is highly improbable, as it lacks the ruff and crown patch of one, and has a different wing and tail from either. It is more of a step between *T. alexandri* and *anna*, but it lacks the crown patch and ruff of the latter, and the gorget is violet; from *alexandri* the differences have already been pointed out. The primaries are broader than in either.

In short, it seems to be a perfectly distinct species, standing between *T. anna* and *T. alexandri*.

I have named it *violajugulum*, from *viola*, violet, and *jugulum*, the throat.

I am indebted to Mr. Ridgway for kindly comparing my specimen with the Washington collection.

BIRD NOTES FROM LONG ISLAND, N. Y.*

BY WILLIAM DUTCHER.

CONCENTRATION of effort, whether applied to business pursuits or the study of zoölogy, is the surest road to success. It was, therefore, with this idea in view, that I decided many years since to confine my ornithological studies and collecting to a limited area. Having a natural bent toward the seashore and water-fowl I saw, presented in Long Island, a field that could not be equalled for diversity of topography and definiteness of surroundings. Situated as it is on the debatable line between the Alleghanian and Carolinian Faunæ, it is like the territory between two contending armies, subject to incursions from both parties. Stragglers from the icy north visit its shores that shortly before have been visited by wanderers from the tropics. Up-

* Read before the Linnæan Society of New York, March 8, 1888.

land and marsh and sea attract a numerous and diversified avifauna, larger probably than can be found in any territory of equal size on the continent.

Almost the first book on birds that I ever read, in fact my primer in the study, was 'The Birds of Long Island,' by J. P. Giraud, Jr., which is without doubt one of the best local lists ever written. With this work as a basis on which to build, the task of completing the list of Long Island birds becomes comparatively easy. As Mr. Giraud's List is in the hands of very few of the readers of 'The Auk,' I have thought it desirable to quote his entire annotation regarding each species on which I publish notes.

In the present paper I have the pleasure of adding six new species and subspecies to the list of Long Island birds, as follows:

Larus minutus. LITTLE GULL.
Puffinus borealis. CORY'S SHEARWATER.
Fregata aquila. MAN-O'-WAR BIRD.
Otocoris alpestris praticola. PRAIRIE HORNED LARK.
Protonotaria citrea. PROTHONOTARY WARBLER.
Dendroica palmarum. PALM WARBLER.

Three of these are new records for the State of New York, viz.,
Larus minutus. LITTLE GULL.
Puffinus borealis. CORY'S SHEARWATER.
Protonotaria citrea. PROTHONOTARY WARBLER.

The Little Gull is also the first positive record for the Continent, the previous and its only other record being shadowed with doubt.

1. **Urinator lumme.** RED-THROATED LOON. Mr. Giraud says: "Those procured in this vicinity are usually young birds—adults seldom occurring."*

Mr. Newbold T. Lawrence, when recording two adult specimens taken on Long Island, says, "In this plumage it is rare."†

Mr. J. C. Knoess, who for many years has practiced taxidermy at Riverhead, Long Island, informs me that he has two very fine specimens of this Loon in the adult plumage "with beautiful red throats." Both were procured on the Island, "and are the only ones in mature plumage I ever saw on the Island." The writer, while at Sag Harbor, in the spring of 1886, saw in the shop of Messrs. Lucas and Buck, taxidermists, a specimen

* The Birds of Long Island, 1844, p. 381.

† Notes on several rare birds taken on Long Island, N. Y. Forest and Stream, Vol. X, p. 235.

which had been sent to them in the spring of 1885. It was shot in Mecox Bay, Suffolk Co., and was the first one they had ever seen in the adult plumage. Mr. A. E. Sherrill, of East Hampton, Suffolk Co., shot a full plumaged male May 8, 1887. It is now in my collection. He informs me that this specimen was shot at Montauk Point, on the ocean, about a mile off shore. It was alone. He adds, "I never saw one of these Loons except in the spring, and few of them at that season of the year. I never killed one just like it before, but have several times heard of their being shot. They are known locally as Sheldrake Loon." Mr. A. H. Helme, of Miller's Place, Suffolk Co., writes to me as follows: "While crossing the Sound, May 11, 1887, from Bridgeport, Conn., to Port Jefferson, Long Island, when about one mile from the Connecticut shore, I saw about twenty-three Red-throated Divers. They were singly, or in pairs, or three together. Those which came near enough to enable me to distinguish the markings were in immature plumage."

2. **Fratercula arctica.** PUFFIN.—Mr. L. S. Foster, of New York City, permits me to record a specimen of this species, now in his collection, which was captured about December 15, 1882, at Centre Moriches, Suffolk Co. Mr. Giraud says: "It but seldom occurs, and only in winter on the coast of Long Island." *

3. **Larus minutus.** LITTLE GULL.—The claim of this Gull to be included in the North American Avi-fauna has always been questionable, some writers allowing it a place on the specimen said to have been taken on the first Franklin Expedition, while others throw it out entirely. Swainson and Richardson include it on the strength of the Franklin specimen, as follows: "A specimen obtained on Sir John Franklin's first expedition, was determined by Mr. Sabine to be a young bird of the first year of this species, exactly according with M. Temminck's description. We have not that specimen to describe, and none was procured on the second expedition."†

Neither Audubon nor Wilson mention it, and Nuttall in a very general way refers it to the United States, but does not mention the taking of any specimens except the one above mentioned. He says, "This small species inhabits the north of both continents, and was seen in the fur countries in Franklin's first expedition, but does not appear to be at all common in those countries, and is equally rare in the United States."‡

Baird, Cassin and Lawrence merely refer to it as follows: "Hab. Arctic America? Europe. There is no specimen in the collection from North America." §

Dr. Coues, in his 'Birds of the Northwest,' refers the Franklin expedition specimen to *Larus philadelphia*, in the synonyms on page 655, and on p. 658 has the following: "Note.—The *Cræcocephalus minutus*, by

* Birds of Long Island, p. 374.

† Fauna Boreali-Americana, Vol. II, 1831, p. 426.

‡ Manual of the Ornithology of the United States and of Canada, 1834, p. 289.

§ Pacific Railroad Reports of Explorations and Surveys, Vol. IX, 1858, p. 853.

some included among North American birds, has no grounded claim to be so considered. I therefore omit the species, which I cannot recognize as an inhabitant of this country until some conclusive evidence is brought forward. The whole claim may be seen to rest upon an identification of Sabine's, who, in all probability, mistook *philadelphia* for *minutus*."*

It is included among the Laridæ in the 'Water Birds of North America' on the strength of the specimen so often referred to before, although the reference is made in a hesitating manner: "The claim of this bird to be included in the fauna of North America rests upon somewhat questionable grounds. Richardson states that a single individual of this species was obtained on Sir John Franklin's first expedition to the Arctic Regions."†

It is omitted from the American Ornithologists' Union Check-List of North American Birds, not even being placed in the 'Hypothetical List.

I have the pleasure of recording the capture of an immature specimen of this Gull. It was shot at Fire Island, Suffolk Co., New York (Long Island), about September 15, 1887. It was mounted by Mr. John Wallace of New York City, into whose possession it came, and who very generously presented it to the American Museum of Natural History, Central Park, New York City. It is No. 3156 in the mounted collection. Mr. Eugene P. Bicknell first called my attention to this specimen, which he had seen at Mr. Wallaces's, by kindly sending me a note stating, "You might find it worth your while to go to Wallaces's and look at a small Gull from Long Island which is drying there. It is in young plumage and, so far as I can see, may be any of the small Gulls. Wallace claims it to be different from anything he has seen." Subsequently I visited the shop of Mr. Wallace and identified it as *minutus*. Mr. Wallace informed me that the specimen was sent to him in the flesh by Mr. W. W. Wilson, of South Oyster Bay, Suffolk Co., N. Y. In response to an inquiry as to how he obtained it, Mr. Wilson replied: "The small Gull you wrote about was shot by Robert Powell, at Fire Island. It is the only one of the kind I have ever had." To complete the chain of evidence I wrote to Mr. Powell for information regarding its capture and he responded as follows: "I was on the bay after Snipe,—that is my business,—and there came twenty-five or thirty Gulls, ten or fifteen of them within shot. I saw this Gull looked so much different, I shot him first. That is my reason for shooting him, he looked so different." I may add that on very many occasions, while shooting in company with the baymen and professional gunners on the South Side of Long Island, I have noted with surprise their wonderful powers of observing the slightest differences among birds while they were yet flying. To the keen sight of Mr. Powell we are indebted for the specimen which gives *Larus minutus* a place in the list of the North American birds.

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* Birds of the Northwest, 1874, pp. 655, 658.

† The Water Birds of North America, by Baird, Brewer and Ridgway, Vol. II, 1884, p. 265.

4. **Puffinus borealis.** CORY'S SHEARWATER.—Ever since the discovery of this species I have felt sure that it eventually would be added to the list of Long Island birds. When I read in 'The Auk' for January, 1887, the note by the late Professor Baird, recording the occurrence of Cory's Shearwater in numbers between Point Judith (Rhode Island) and Vineyard Sound, I was certain that the time was near at hand. It was with great pleasure, therefore, that I received from Messrs. Lucas and Buck, two specimens, a male and female, which, with four others, were shot off Amagansett, Suffolk Co., about October 18, 1887.

5. **Puffinus auduboni.** AUDUBON'S SHEARWATER.—My son, Basil Hicks Dutcher, while examining the catch of a fishing smack at Amityville, Suffolk Co., found a specimen of this species lying on the deck. Capt. Joshua Ketcham, the owner, kindly gave it to him and also stated that the bird "was captured, while alive, in Great South Bay, opposite Bellport, August 1, 1887. It refused food and lived but a few days." On skinning the bird a contused wound was found on the right breast, evidently caused by a blow. According to Mr. Giraud, "This is another of those stragglers that occasionally visit the coast of Long Island." *

6. **Fregata aquila.** MAN-O'-WAR BIRD.—The claim of this bird to be included in the fauna of Long Island has heretofore rested on the specimen captured by Capt. Brooks, in 1859, on Faulkner's Island, Long Island Sound.† After an interval of twenty-seven years another straggler from the tropics furnishes an additional record of extra-limital occurrence. In August, 1886, Messrs. Lucas and Buck wrote to me that they had just mounted a specimen of the Frigate Pelican for Mrs. John Lyon Gardiner, which had been shot on Gardiner's Island. Subsequently I ascertained, on inquiry, that the bird was shot August 4, 1886, by Mr. Josiah P. Miller, the keeper of the lighthouse. His account of the capture of the specimen is as follows: "The Man-o'-War Bird which I shot a while ago, was, when I first discovered it, sitting on a piece of old wreck, about fifty rods distant from the lighthouse. I tried to get a shot at it, but it saw me before I was near enough, and flew off up the beach out of sight. It came back in about an hour and settled in the same place as before. This time I went on the opposite side of the beach and concealed myself in the grass. My daughter went toward the bird, when it flew directly over me, giving a splendid shot. It was alone, and is the only one of the kind that I ever saw in this part of the world. I have kept this light for twenty years."

7. **Anas strepera.** GADWALL.—Mr. A. H. Helme, of Miller's Place, allows me to record a Gadwall Duck which was taken April 9, 1879, at Mount Sinai Harbor, Suffolk Co. It was shot by a gunner who reported having secured a similar Duck a few days prior. The last one shot was seen by Mr. Helme and positively identified; but the first one, although probably a Gadwall, may have been some other species. November 24, 1886, a female of this rare species was sent to me by Mr. Andrew Chiches-

* Birds of Long Island, p. 370.

† American Naturalist, Vol. IX, p. 470.

ter, of Amityville, who subsequently sent to me the following note: "My brother and I were gunning in partnership; I was at the north end of Gilgo Island and he was about three-quarters of a mile west of me and to the windward. A flock of fifteen or twenty Black Ducks came to my decoys and I noticed among them one which I supposed was a Pintail or Widgeon, but as they do not sell as well in market as Black Ducks, I paid no further attention to it, but tried to make the best shot I could at the others. The flock passed on to my brother's blind, but would not come near enough for a shot, although they noticed the decoys. After passing, the Gadwall left the flock, turned back and lit among the decoys, when he shot it. Neither my brother nor myself ever saw one like it before, nor have we ever heard of one being killed around here." The Messrs. Chichester are professional gunners who are well acquainted with the wild fowl that frequent the western end of Great South Bay. Mr. Giraud says of this Duck: "In this vicinity, the Gadwall is quite rare. My first acquaintance with this bird was in 1834, while pursuing my favorite amusement of water fowl shooting in the celebrated South Bay. It was flying alone, seemingly wandering about as if in search of companions. It passed and repassed several times outside of my decoys, without approaching within gunshot, but sufficiently near to excite in me a desire for having a better opportunity to examine it. I concealed myself with great care, hoping that it would approach within shooting distance, as I was induced to believe that it would, from the desire it exhibited to join the motley flock which my 'decoys' represented; but as it advanced, it appeared to see that all was not right, and at the moment when my hopes were the brightest, it quickly changed its course, and alighted on a marsh about a half a mile from me. I gave quick pursuit, and after wading through the tall grass and mud, discovered it sitting on a bog, pluming and dressing its feathers, unconscious of its impending fate. Its perfectly neat appearance so engaged my attention, that I forgot that a gun was in my possession, until it took to wing, when the desire to obtain it returned, and I brought it down. On taking it up, although proud of this valuable acquisition to my collection, I could not forbear feeling that Nature had been robbed of one of her greatest ornaments. I have since killed a few along the south shore of Long Island." *

8. **Somateria spectabilis.** KING EIDER. — Mr. Giraud says of this species: "This remarkable Duck is seldom seen within the limits of the United States, although I had the good fortune to add to my collection an adult male in perfect plumage, that was shot on Long Island Sound, in the winter of 1839. During winter—at Egg Harbor (New Jersey) as well as on the shores of Long Island—the young are occasionally observed. But the adult specimen now in my possession, and one other, are the only individuals in full and mature plumage, that I have ever known to be procured in the vicinity of New York." † Early in December, 1886, Mr. A.

* Birds of Long Island, pp. 305, 306.

† Ibid, p. 333.

H. Helme visited Capt. J. G. Scott, keeper of the lighthouse at Montauk Point, and while there had the good fortune to procure an adult female of this species. His account of the capture is as follows: "It was alone when shot and was feeding in the shallow water among the rocks in a sheltered cove. It was at first mistaken for a Dusky Duck, whose mate had been shot at this spot the preceding day. It was shot at and twice driven from its feeding ground only to return the third time to offer itself, apparently, a voluntary contribution to the cause. It had previously been wounded, the right tibia having been broken near the tibio-tarsal articulation. As the bones had not united the bird evidently found it difficult to feed in the deeper water. This will, I think, account for its attachment to the spot where it was shot. Capt. Scott reports seeing, while off the Point ducking, several Ducks which he calls 'Isle of Shoal Ducks.' They may be female Eiders or Scoters." January 22, 1887, Capt. Scott sent to me one of the Isle of Shoal Ducks, which proved to be a female King Eider. He reported them, "living off the Point since early in November (11th), when I saw a flock of four; the next day I saw ten at one time. They appear less shy than the other wild fowl, and will permit a nearer approach in a boat. In this locality it is seen occasionally in the winter months, on the ocean, from one-quarter to one-half mile from shore. It is not a common Duck, and I believe it is only a few years since they have been seen off Montauk Point, but this winter they have been more than usually common. There is a shoal, with a depth of water from fifteen to twenty feet, about one-quarter of a mile off the Point, where I go to shoot Ducks, but can only do so when the surf will permit. Every time I have visited this spot this winter, I have seen from four to twenty King Eiders." March 19, 1887, Capt. Scott sent to me a young male which he shot from a flock of twenty. April 8, he wrote, "I was out to-day and saw about thirty King Eiders, as many as I have seen any day this winter. I think about one-third of the birds were males." Late in the winter I wrote to Capt. Frank Stratton, keeper of the Ditch Plain Life Saving Station, asking whether this species was a regular winter visitant near Montauk, and he replied as follows: "The King Eider Ducks are quite rare here; I think I have known only about ten killed in as many years. I shot three, the first of November, I think in 1880. We see a few every winter, between November 1 and May 1, usually singly or in pairs, hardly ever in flocks. They feed on mussels or small shell-fish which they pick up from the bottom of the ocean. They never come into the ponds or bays; at least I have never seen one except on the ocean. They are very fair eating, nearly as good as a Black Duck." April 21, 1887, Capt. Stratton sent to me a male and female which had been shot off his station by one of the Life Saving Crew. "They were about one-quarter of a mile off shore, where the water was from three to four fathoms deep." They were both gorged with the young of the common edible mussel (*Mytilus edulis* Linn.), which Capt. Stratton says grow in large quantities in the ocean around Montauk, wherever there is a rocky bottom. The two specimens above referred to were the last ones seen.

9. **Olor columbianus.** WHISTLING SWAN.—Mr. Giraud says regarding the genus *Olor:* "The present species is the only one which I have ever known to be seen in this vicinity."* The first settlers on Long Island undoubtedly found Swans in great numbers, as did their eastern neighbors.† At the present time, however, this noble bird can hardly be called more than a straggler. November 5, 1886, one was shot in Reed Pond, Montauk, by Mr. George Hand; it was alone. Capt. Scott informs me that Mr. Jonathan Miller shot one about twelve years since while he was keeper of the light at Montauk Point. It was mounted and is now in his possession at his home in Amagansett. Mr. Eugene A. Jackson, of Atlanticville, reported to me that one was shot November 26, 1886, on Shinnecock Bay. Nothing but the head and neck were preserved; these are now in my collection. This is the same bird recorded in 'Forest and Stream,' Vol. XXVII, p. 364.

10. **Rallus elegans.** KING RAIL.—Mr. Giraud says of this Rail: "During my frequent excursions on Long Island, I have not had the good fortune to meet with this large and beautiful Rail, and have only seen one specimen that was procured in that locality, which was shot in the vicinity of Williamsburg, and is now in the valuable collection of George N. Lawrence, Esq." After quoting Mr. Audubon at some length, as to its being altogether a fresh water bird, he concludes by saying: "Hence we may conclude that its occurrence with us is extremely rare."‡ As it is, like all of the Rallidæ, partly nocturnal and extremely secretive in its habits, it is probably overlooked and is more common than it is thought to be. Mr. Knoess, of Riverhead, has a mounted specimen in his collection. It is a young bird and was caught alive on the shores of Peconic Bay. It is the second one that has been brought to him alive. He cannot say positively whether it was bred there, but he is under the impression that it was.§

Mr. Squires, of Ponquogue, Suffolk Co., has in his possession a mounted specimen which was shot some years since on the meadows opposite the Great West Bay Light, Shinnecock Bay. It was taken in the summer. My friend, Mr. Alfred A. Fraser, of Oakdale, Suffolk Co., presented me with a magnificent specimen in the flesh, which he shot November 2, 1886, on a meadow bordering a fresh water stream, emptying into Great South Bay, at Bayport, Suffolk Co. He wrote: "I cannot remember of bagging over half a dozen in my twenty years' shooting on Long Island," Mr. Fraser is the fortunate possessor of a beautifully located country seat of 800 acres, which affords him many hours of sport with his dogs and gun.

March 3, 1887, one of these birds struck the Montauk Point Lighthouse, and was sent to me by the keeper, Capt. Scott. He stated that the bird

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* Birds of Long Island, p. 299.

† See Dr. C. Hart Merriam, Birds of Connecticut, p. 120. J. A. Allen, A Revised List of the Birds of Massachusetts, p. 233. Wm. Dutcher, Forest & Stream, Vol. XXVIII, p. 106.

‡ Birds of Long Island, p. 210.

§ See Birds of Connecticut, p. 115.

struck the light on the east side of the tower. If it was migrating northward, it should have struck the tower on the west side, the trend of the Island being about east and west, but striking on the opposite side indicates that it only struck after circling about the light. *

11. **Porzana noveboracensis.** YELLOW RAIL.—Mr. Giraud says: "Notwithstanding this species is but seldom met with on Long Island, I am not inclined to think it so exceedingly rare in this vicinity as it is generally supposed. Its habits of skulking among the tall grass and reeds that overgrow the wet and but seldom frequented marshes, as well as its unwillingness to take wing, may, I think, in a measure account for its apparent extreme scarcity with us."†

Mr. A. A. Fraser sent to me April 29, 1887, a specimen of this species which his dog caught alive. As his account of the occurrence is very interesting, corroborating fully the statements of Mr. Giraud and Dr. Grinnell regarding the difficulty of flushing this Rail, I give it in full: "They are very hard to get, as it is almost impossible to make them take wing. This one was secured while I was beating the salt meadows for English Snipe. My dog came to a beautiful stiff point; I walked up to flush the bird, expecting to see a Snipe get up, but instead, the dog broke point, and run his nose in the meadow grass and brought to me very carefully the Rail." When I received it, it was so lively, and also so pretty, that I disliked to kill it, so took it to the menagerie at Central Park, New York City. Mr. Conklin, the Superintendent, placed it in a large cage, surrounded with a fine wire netting, in company with some Quails and Doves. Its restlessness was pitiful: it ran from side to side of the coop and thrust its head in the loops of wire looking for a hiding place. During its first night in confinement its neck was caught in one of the wire loops and it became an involuntary suicide. Its remains now rest peacefully, with those of several other members of its family, in a tin vault dedicated to the post-mortem uses of the avi-fauna of Long Island.

12. **Crex crex.** CORN CRAKE.—Since my previous record of this bird on Long Island,‡ I have had a mounted specimen presented to me by Mr. A. A. Fraser, who "bagged the bird, November 2, 1880. It was at the foot of the uplands, where they join the meadows, in heavy cover, with springs running from it."

13. **Phalaropus tricolor.** WILSON'S PHALAROPE. My friend, Mr. Charles E. Perkins, again enriched my collection of Long Island birds by sending to me, September 13, 1887, a specimen of this Phalarope, which

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* See Bird Migration, By William Brewster. Mem. Nuttall Ornith. Club, No. 1, 1886.

† Birds of Long Island, p. 205.

Dr. C. Hart Merriam in his Birds of Connecticut, pp. 118 and 119, gives a very interesting letter from Dr. George Bird Grinnell regarding the capture of several specimens of this species near Milford, Conn. He found "They were ridiculously tame and would run along before the dog, creeping into the holes in the bogs and hiding there while we tried in vain to start them."

‡ Auk, Vol. III, 1886, p. 435.

he shot that day, at Shinnecock Bay, Suffolk Co., while shooting Bay-birds (Limicolæ) over decoys. Two days after he shot another.

14. **Tringa maritima.** PURPLE SANDPIPER.—This species was one of the desiderata of Mr. Giraud, who wrote of it as follows: "This species I have never met with, and from my own observations of its habits and customs I know nothing. On the shore of Long Island it is exceedingly rare. Of all the transient visitors, there is no species for which I have made more diligent search than the Purple Sandpiper. At different seasons of the year, I have traversed the beaches and shoals on the south, and rambled over the rocky shores of the north side of the Island—but thus far it has eluded all my endeavors. Respecting it, I have had frequent conversations with the bay-men, without gathering any information, it being to those with whom I have conversed entirely unknown; and were it not from having in my possession a specimen that was purchased in Fulton Market, and having seen two or three others that were procured through the same source—all of which, it is said, were shot on the eastern end of the Island—I would not feel at liberty to include it in our local Fauna."*

It is very probable that this Sandpiper is only found, now, as when Mr. Giraud wrote of it, on the eastern portion of the Island, and perhaps on the north side, where it can find the rocky shores so necessary to its existence. Mr. Newbold T. Lawrence† and Mr. Robert B. Lawrence,‡ both well known in connection with Long Island birds, have each recorded one specimen from the Island. It is further probable that it is not only a regular winter visitant, but that it is not uncommon in suitable localities on Long Island. Its being found only on rocky shores and during the winter months, accounts largely for its being overlooked. The bleakness and desolation of winter along the seashore deters sportsmen from frequenting it even at the most favorable times, but when there is added the snow and sleet of a northeast gale none but the hardy members of the Life Saving Crews, those noblemen who ever stand ready to risk their own lives to save those of storm-tossed and surf-beaten mariners, and the isolated few who devote their lives to solitude and loneliness in the light-house towers, that stand as beacons to warn the sailor where danger lurks, ever have the opportunity of observing this boreal Sandpiper in its chosen surroundings. At the entrance to Long Island Sound lies a small rocky island, known as Little Gull, on which is erected a lighthouse that by day and night serves as a guide from the stormy waters of the Atlantic to the land-locked Long Island Sound. The keeper of this light, Mr. H. P. Field, has given me many valuable notes, and some specimens, of the birds of his vicinity. His means of communication with the mails are by sailing a long distance to the nearest port on Long Island, or else to put off in a small boat and hail some inward bound vessel and get the master to forward his notes or specimens. Communication is therefore

* Birds of Long Island, pp. 236, 237.

† Forest and Stream, Vol. X, p. 235.

‡ Ibid., Vol. XXVII, p. 428.

so infrequent that I supply him with small blank books in which he makes almost daily records of the birds noted; also the weather and temperature. These books are sent to me January and July first. In the report for the first half of 1886, Mr. Field noted, January 23: "Observed some small Snipe feeding on the rocks,—temp. 20°." The next day he notes: "The little Snipe still here, while it is snowing hard,—temp. 8°." None were seen again until January 30, when he writes: "One little Snipe made its appearance again to-day,—temp. 32°." February 1, another one joined the solitary individual noted January 30. This pair remainded until the 10th of February, "feeding on the rocks," although the temperature on the 4th was —2°. On the 17th they returned, remaining one day and then disappeared until February 23. They again wandered off, returning March 3, and remaining three days. None were seen again until March 25, when one returned to say to Mr. Field that the temperature of 38° was entirely too tropical, and that he wished to say for himself and his mates, farewell, as they were about to start for a more frigid clime. The journey evidently was commenced, as none were again seen.

Mr. A. H. Helme, while at Montauk Point in December, 1886, saw three individuals of this species and secured two of them, a male and female. The first one secured was shot about two miles west of the Point, and the second was killed near Fort Pond, about four miles from the Point. February 10, 1887, a flock of three made their appearance at Little Gull Island, and Mr. Field secured them all and sent them to me in the flesh. No others visited either Little Gull Island or Montauk Point, during the winter of 1886–87. November 1, 1887, a solitary individual was shot at Montauk Point, by Capt. Scott, who sent it to me, together with a Sanderling (*Calidris arenaria*), which was shot from a flock of twenty at the same place and on the same day.

15. **Cathartes aura.** TURKEY VULTURE.—Since making my previous record* on this species I have secured several others through the kindness of Mr. Alfred Marshall, an Associate Member of the Union. The records were all made at the extreme southwestern portion of the Island, Mr. Marshall residing in Flatbush, Kings Co. The following is a copy of his notes: "September 5, 1877, Mr. Johnston says, 'The flagman on the Manhattan Beach R. R., at the Parkville crossing, saw a large bird flying about six feet from the ground, and as it flew by succeeded in stunning it with a stone. He afterward saw it and found it to be a Turkey Vulture in splendid condition.' June 9, 1885, Mr. Johnston also saw two flying over his residence at Parkville, and again on August 26, of the same year, he saw another. July 19, 1886, he saw still another, being pursued by a Crow. The Vulture mounted to a great height, the Crow following. In May, 1885, I saw one, and May 16, the following year, I saw another. It was sitting on the top of a dead tree near Ocean Avenue, Greenfield, Kings Co. Two or three wagons drove by while I was watching the bird, but it did not fly, so I crept under the tree to get a good view of it. After watch-

* Auk, 1886, Vol. III, p. 439.

ing it for ten minutes, I threw a stone to start it, but it did not fly until I hit the limb it was sitting on; then it flew to another tree about fifty yards off and commenced cleaning its feathers. It was about 5 A.M. when I saw the bird first. I think it had been eating and had gorged itself. These are all the notes I can collect, and I believe they cover the visits of this Vulture in our locality for the past decade."

16. **Strix pratincola.** AMERICAN BARN OWL.—Since my record of the breeding of this species on Long Island* I have heard of the capture of a specimen. Mr. Knoess wrote to me as follows: "I see by reading 'The Auk,' that you mention the Barn Owl as being a rare bird: I mounted a beautiful specimen, shot November 20, 1886, at West Hampton, Suffolk Co., a female. It is the first one I ever mounted on the Island. My friend who shot it saw it perched on a tree near the post office, between one and two o'clock, P.M.

17. **Alauda arvensis.** SKYLARK. — Late in June, 1887, I received a request from Dr. C. Hart Merriam to investigate a statement made in a New York paper, that "Skylarks are abundant on Long Island, at Flatbush and from that place down, easterly through a stretch of land extending to Flatlands, and thence around and about the town of Flatlands." I referred the request to Mr. Alfred Marshall, who resides at Flatbush and is well acquainted with the locality. Within a few days (July 2) he wrote that he had secured two birds which he supposed were Skylarks. They were forwarded to Dr. Merriam who pronounced them "unquestionably the true European Skylark (*Alauda arvensis*)." Subsequently, Mr. Marshall informed me that he found the Skylarks in the long-grass fields, and that they were quite plenty. Those secured were young birds. On the 12th of July he saw a great many, all adults, and singing. He also saw one carrying food in its mouth, and supposing it had young, he noted where it dropped into a piece of timothy grass. He was unable to find the nest then, but later, on the 14th, he was more successful, as he found it with five half-grown young. The nest was composed of grass and was placed in a depression in the ground, about two and one-half inches deep, and was hidden under a tuft of grass. The Skylarks remained until September 15, on which date Mr. Marshall saw the last one.

18. **Otocoris alpestris praticola.** PRAIRIE HORNED LARK. — Mr. John Hendrickson, of Long Island City, Queens Co., has the honor of having secured the first specimen of this variety of the Horned Lark on Long Island. July 31, 1886, he shot one near his home. His brother, Mr. W. F. Hendrickson, when writing to me about it, asked if it was not early in the season for a Shore Lark to be found, and also stated that the specimen was very small. Subsequently he sent it to me, but as I had no others to compare it with, I forwarded it to Dr. A. K. Fisher, at Washington, for comparison and identification. He replied to my inquiry as follows: "The specimen is *Otocoris alpestris praticola*. To make doubly sure, I had Mr. Ridgway examine it and he said there was no question but that it was

*Auk, Vol. III, 1886, p. 439.

praticola. I should not be surprised, if in a few years the bird would be a common breeder on Long Island." September 14, 1887, the Messrs. Hendrickson sent to me in the flesh a Horned Lark which, from its immaturity, had evidently been bred on the Island, and consequently must be *praticola*.

19. **Calcarius lapponicus**. LAPLAND LONGSPUR. — One shot at Long Island City, Queens Co., January 11, 1886, by John Hendrickson, is the only record I have secured since those noted in 'The Auk' of October, 1886.* This specimen was in company with four Horned Larks. "It had but one leg, the left one having been cut off: the wound was entirely healed." Mr. Giraud considered this bird an extremely rare straggler. "In the winter of 1838, several specimens of this bird were observed in the New York markets, having been shot on Long Island—but I am not aware that this species has ever before or since been met with in our section."† From my records made thus far I cannot consider individuals of this species in the light of stragglers. Further observations, made on the beaches and grassy plains, may prove them to be regular, but not common, visitants, as in Massachusetts.‡

20. **Zonotrichia leucophrys**. WHITE-CROWNED SPARROW.—Mr. Giraud includes this bird in his list, but does not say specifically that he ever took or even saw a specimen on Long Island. Inferentially he includes it, but considers it rare "in the Middle States."§ Mr. Geo. N. Lawrence, gives it in his list, and I find in his collection, now in the American Museum of Natural History, Central Park, New York City, two specimens from Long Island. I have secured two specimens in the past nine years. The first one of these has already been recorded.‖ The last one, an immature male, I shot October 16, 1886, at Broadway, Queens Co. It was first seen in a roadside thicket of catbriars (*Smilax rotundifolia*), but was thought to be a White-throated Sparrow. After the lapse of half an hour the thicket was again visited and the bird was found and secured. It was alone.

21. **Piranga rubra**. SUMMER TANAGER.—Mr. Giraud does not include this species among the Long Island birds, nor does Mr. George N. Lawrence include it in his catalogue.¶

The former says, when speaking of the Scarlet Tanager (*Piranga erythromelas*): "This species is the only one of the Genus that is found in this vicinity.** The latter states, "I have seen it in the Magnolia Swamps

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* Auk, Vol. III, 1886, p. 440.

† Birds of Long Island, 1844, p. 99.

‡ See A Revised List of the Birds of Massachusetts. By J. A. Allen. Bull. Amer. Mus. N. H., Vol. 1, No. 7, July, 1886, p. 250.

§ Birds of Long Island, p. 123.

‖ Auk, Vol. I, 1884, p. 175.

¶ Catalogue of Birds observed on New York, Long, and Staten Islands, and the adjacent parts of New Jersey. Ann. N. Y. Lyc. Nat. Hist., VIII, p. 286, April, 1886.

** Birds of Long Island, p. 136.

of the New Jersey coast near Atlantic City, but never met with it any further north." Since my previous records* I have had two additional specimens reported to me by Mr. John C. Knoess, who writes: "I have a beautiful specimen, killed last April (1886) at Manor, Suffolk Co., and another at Promised Land, also in Suffolk Co. They are the first I ever saw on the Island." Can it be that this species is extending its range northward?

22. **Protonotaria citrea.** PROTHONOTARY WARBLER. — Neither Mr. Giraud, in 1844, nor Mr. Lawrence, in 1866, gave this species in their Long Island lists, nor can I find a well authenticated record for the State of New York. I now have the pleasure, however, of adding this beautiful Warbler to the New York birds, through the kindness of Capt. Scott, who sent me one that struck the light at Montauk Point, during the night of August 26, 1886. It was found dead at the base of the tower on the following morning. The night was hazy, with wind changing from northeast to southwest. So far as Capt. Scott knows the bird was alone, that is, he found no others dead, nor did he see any about the lantern. He states that it was the first one of the kind that he had ever seen. This record, taken in connection with that made by Mr. William Brewster, in this journal, October, 1886,† is particularly interesting. The two specimens taken by Mr. Brewster at Concord, Mass., were shot on August 17 and 23, and my specimen struck the lighthouse on the 26th. Perhaps this last specimen was one of the family from which Mr. Brewster secured two members, but if not so, it certainly to some degree bears out his claim, "that during 1886, at least, there has been a regular, if limited, flight into and from New England."

23. **Dendroica striata.** BLACK-POLL WARBLER.—Of the five hundred and ninety-five birds which were killed by striking Fire Island Light, September 23, 1887, no less than three hundred and fifty-six of them were of this species. Among them I found a very beautiful partial albino.

24. **Dendroica palmarum.** PALM WARBLER.—During the night of the 23d of September, 1887, a great bird wave was rolling southward along the Atlantic Coast. Mr. E. J. Udall, first assistant keeper of the Fire Island Light, wrote to me that the air was full of birds. Very many of the little travellers met with an untimely fate, for on the following morning Mr. Udall picked up at the foot of the light house tower, and shipped to me, no less than five hundred and ninety-five victims. Twenty-five species were included in the number, all of them being land birds, very nearly half of which were Wood Warblers (Mniotiltidæ). Among these I found one female Palm Warbler. This is the first record for Long Island of the western form, those included by Mr. Giraud‡ and Mr. Lawrence§ in their lists being undoubtedly the eastern form, *hypochrysea*.

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* Auk, Vol. III, 1886, p. 442.

† Auk, Vol. III, 1886, pp. 487, 488.

‡ Birds of Long Island, p. 59.

§ Ann. N. Y. Lyc. Nat. Hist., VIII, April, 1866. p. 284.

25. **Mimus polyglottos.** MOCKINGBIRD.—Mr. Arthur Tepper, of Flatbush, Kings Co., brought to me a specimen of this species for indentification, and informed me that it had been shot in his neighborhood, in the early part of November, 1884. He also stated that another one had been shot a short time previously in the same locality. On two other occasions he saw what he was positive were Mockingbirds, both being in the summer. Mr. Giraud says of it: "This unrivalled songster occasionally passes the season of reproduction on Long Island." *

26. **Thyothorus ludovicianus.** CAROLINA WREN.—Since my previous record† another specimen has been brought to my notice by one of my correspondents, Mr. Henry Hicks, of Westbury Station, Queens Co., who now has it in his collection. He secured it the latter part of March, 1886. It was first seen March 22, about an open hovel, and remained about the place until the 25th, when it was shot.

SUPPLEMENTARY NOTES FROM THE GULF COAST OF FLORIDA, WITH A DESCRIPTION OF A NEW SPECIES OF MARSH WREN.

BY W. E. D. SCOTT.

Chen hyperborea nivalis. GREATER SNOW GOOSE — Mr. J. W. Atkins, of Key West, Florida, has kindly forwarded to me a representative of this subspecies taken near Punta Rassa, Florida. There were four individual in the flock from which this specimen was obtained. This is the only record resulting from four years' work on this coast.

Ardea wardi. WARD'S HERON.—The references to *Ardea herodias* in my recent papers on the 'The Present Condition of some of the Bird Rookeries of the Gulf Coast of Florida' (Auk, Vol. IV, pp. 135, 213, and 273) should probably all be attributed to this species. *Ardea herodias*, so far as I am now aware, does not occur on the Gulf coast of Florida south of the mouth of the Withlacooche River. In the vicinity of Tarpon Springs, Hillsboro County, Ward's Heron is still a comparatively abundant bird. It breeds in colonies of varying size, not less than three, or more than twenty-five pairs being associated together. The localities chosen for breeding are generally small islands having a considerable growth of trees, and with open expanses of fresh water on all sides. Such islands are frequently to be found in cypress swamps and are apparently the favorite breeding resorts. Mating begins in late December or early January and by the middle or last of the latter month the

* Birds of Long Island, p. 82.

† Auk, Vol. III, 1886, p. 442.

eggs are laid. I have taken in this vicinity young ready to fly as early as the 20th of February. Two young are more commonly reared in a brood, though occasionally I have seen three in a nest.

The breeding season is protracted, and seems to vary with localities, as I found young not more than two weeks old late in May near Punta Rassa, which point is about one hundred and fifty miles south of Tarpon Springs. Two broods at least are reared each season.

Ardea rufescens. REDDISH EGRET.—Though I have demonstrated to my entire satisfaction that this species is identical with the so-called *A. pealei*, the result of the investigations carried on will be briefly recapitulated to enforce and emphasize the facts that substantiate the position taken. The birds are common on the Gulf coast of Florida as far north as Anclote Keys, but at certain points one or the other phase seems to predominate, the species being represented in the southern part of the area almost wholly by white individuals and in the northern part the dark form largely predominates. However, at points in Charlotte Harbor, both phases occur commonly, and here I obtained several specimens in parti-colored plumage, *i. e.*, partly dark colored, mottled or pied with white feathers (see Auk, Vol. IV, No 3, p. 215). Mr. George B. Sennett recently kindly allowed me to examine several Reddish Egrets collected by himself on the Texas coast, two of which showed to a marked degree this same parti-colored condition of plumage.

Finally, to go back several years, I quote from the 'Bulletin of the Nuttall Ornithological Club,' Vol. VII, 1881, p. 20:

"At Clearwater and just south of it, and particularly at points on Old Tampa Bay, I found the Reddish Egret (*Ardea rufa*) abundant. While most common in the dark plumage, many were noted and some obtained in the white plumage, the so-called *Ardea pealii*. They began breeding in March and were breeding commonly in April, Mr. Devereux obtaining numerous sets of their eggs, varying from four to six in number. This gentleman found *young* in *both plumages* in the same nest where the *parents* were *both blue birds*," Mr. Devereux was at this time my assistant and eminently qualified to make correct and careful observations. I had been obliged to leave the point in question before the breeding season began, but had called his special attention to the thorough investigation of the problem, which at that time, the winter of 1879-80, was still an open one to my mind.

Macrorhamphus scolopaceus. LONG-BILLED DOWITCHER.—Of rather common occurrence near Tarpon Springs in the fall and early winter months, and I have specimens taken near Fort Meyers, on the Caloosahatchie River, in December.

Tringa maritima. PURPLE SANDPIPER.—A specimen of this species was taken by Mr. J. W. Atkins, at Gordon's Pass, west coast of Florida, in November, 1886. This occurrence greatly extends the known range of this species to the southward, it being of rare occurrence on the Atlantic coast south of Long Island, N. Y. I am indebted to Mr. Atkins for the opportunity of examining and recording this interesting specimen.

Ereunetes occidentalis. WESTERN SANDPIPER.—Though not so abun-

dant as *E. pusillus*, yet this appears to be a regular visitor every season, arriving early in the fall.

Symphemia semipalmata inornata. WESTERN WILLET. — Both forms of Willet occur in the vicinity of Tarpon Springs, and though I have representatives of *inornata* in full plumage, yet the smaller form is the one breeding commonly about this point, and localities visited on Tampa and Hillsboro Bays. *S. s. inornata*, however, seems to be the commoner form throughout the winter months.

Columba leucocephala. WHITE-CROWNED PIGEON. — Through the kindness of Mr. Atkins, of Key West, I am able to record a representative of this species from Punta Rassa. This is a young male of the year, just beginning to assume full plumage. It is No. 3492 of the author's collection, and was taken by Mr. Atkins at the point indicated on August 16, 1886.

I have also before me two immature female birds taken at Key West by Mr. Atkins on October 8 and 9, 1887. The eyes of the female birds are recorded on the labels as *gray* and those of the male as light orange. Feet and legs of all, dark red.

Mr. Atkins writes me that the species is quite common at Key West.

The record from Punta Rassa extends the range of this species on the Gulf coast of Florida considerably to the northward — about a hundred and twenty miles—of previous observations.

Buteo fuliginosus. LITTLE BLACK HAWK.—On the 15th of December, 1886, A. Lechevallier collected, near Cape Romano, Florida, an adult male bird of this species. This bird was procured from that gentleman by Mr. Atkins and was sent by him to me for identification. Concluding it to be the above species, it was submitted to Mr. J. A. Allen, who agreed with me. This is, so far as I am aware, the second record for the United States.

Conurus carolinensis. CAROLINA PAROQUET.—This species, once common in Hillsboro County and in the immediate vicinity of Tarpon Springs, has now apparently disappeared from the region in question, or has at least become very rare. During three seasons' collecting in this region I have not met with it, nor have any specimens been brought to me by any of the many local hunters. The birds are still rather common in parts of Hernando County, but the general opinion of residents seems to be that each year finds them more rare. This does not seem to have come about wholly by persecution, though the birds have been killed in great numbers. The settlement of the country and clearing of land has served to disturb this species very much, as it has *Campephilus principalis*. Both species have absolutely forsaken regions where they were once comparatively common, or even abundant.

Coccyzus minor. MANGROVE CUCKOO.—I have before me an individual of this species, taken near Tampa by Mr. Stuart, and the record of another observed on South Anclote Key, May 20, 1887.

The species, though not nearly so common, seems to have a range on the Gulf coast of Florida coextensive with that of *Vireo altiloquus barbatulus*, to which reference will be made further on.

Campephilus principalis. IVORY-BILLED WOODPECKER. — The following account of the nest and first plumage of this species was made by the writer near Tarpon Springs, on March 17, 1887: "To-day found nest of Ivory-billed Woodpecker, and obtained both parent birds and the single young bird which was the occupant of the nest. The cavity for the nest was dug in a large cypress tree, in the midst of a dense swamp, and was forty-one feet from the ground. The opening was oval in shape, being three and one half inches wide and four and a half inches high. The same cavity had apparently been used before for a nesting place; it was cylindrical in shape and a little more than fourteen inches deep. The young bird in the nest was a female, and though one-third grown had *not yet opened its eyes.* The feathers of the first plumage were apparent, beginning to cover the down, and were the same in coloration as those of the adult female bird."

These birds, I am told by all old residents, were once very common in this region. But they are now comparatively rare and very shy. The same day that the nest was found eleven were counted in the swamp in question, sometimes four or five being in sight at once. The three spoken of were all that were obtained, the adults being the parents of the young female bird.

Chordeiles virginianus chapmani. CHAPMAN'S NIGHTHAWK. — There are before me both the eggs and one young bird in the down, of this subspecies. The bird was taken, together with the parents, on June 17, 1887, near Tarpon Springs, by Mr. W. S. Dickinson, at that time my assistant. The young bird is apparently five or six days old. The down is dirty white beneath, and on all other parts is the same dirty white mixed with spots of black, giving the bird an appearance above not unlike the young of *Ægialitis wilsonia*, save that the down is longer. The egg is very similar in color and markings to that of *C. virginianus*, and measures 1.20 × .90 inches.

Icterus spurius. ORCHARD ORIOLE. — A rather common migrant on the west coast of Florida in the vicinity of Tarpon Springs, appearing from the 5th to the 25th of April. The males are in full song, but I have no later record of the species than those given above, and do not think it breeds here.

Chondestes grammacus. LARK SPARROW.—The records previously given (see Auk, Vol. IV, No. 2, p. 133) are now supplemented by an adult female taken by Mr. J. W. Atkins, at Key West, on October 3, 1887, and a single bird observed at Tarpon Springs by the writer on November 2, 1887. The species is probably a rare regular migrant and winter resident in the southwestern portion of Florida.

Peucæa æstivalis. PINE-WOODS SPARROW.— Occurs abundantly as a common resident, breeding about Tarpon Springs.

Peucæa æstivalis bachmanii. BACHMAN'S SPARROW.—Occurs as a rare bird in the breeding season, but not uncommon in early fall and winter about Tarpon Springs.

Vireo altiloquus barbatulus. BLACK-WHISKERED VIREO.—A common

migrant, and breeds in numbers on all of the mangrove keys of the west coast of Florida, as far north at least as the mouth of the Anclote River.

Mr. Dickinson obtained late in May a series of twelve individuals of this species on the South Anclote River, near Tarpon Springs, which is now in the writer's collection. The birds arrive here about May 10-15, and though Mr. Dickinson was unable to find them breeding, he saw old nests of the preceding year which appeared to have been built by this bird. They probably build early in June, at which time the gentleman in question was unable to continue his investigations.

The species seems to be confined almost exclusively to the mangrove keys, and is very difficult to obtain, even when seemingly plentiful, as they are wary and shy, and the cover to which they resort is dense and impenetrable. I have only two records of their occurrence on the mainland.

Vireo noveboracensis maynardi. KEY WEST VIREO.—Mr. Atkins has found this form quite abundant at Key West, and has kindly sent me a series of nine specimens and two nests containing eggs. Two of the nine birds were collected at Punta Rassa and are apparently the same as the seven from Key West.

The nests are very like those of the true White-eyed Vireo, and the eggs similar though a little larger.

Helinaia swainsonii. SWAINSON'S WARBLER.—Mr. Atkins has collected on the island of Key West only one fall season, and it seems that Swainson's Warbler is not an uncommon migrant at that point. On Sept. 20, 1887, he took three males of this species.

Helminthophila bachmanii. BACHMAN'S WARBLER.—Before me is the Bachman's Warbler referred to in 'The Auk' for October, 1887, p. 348. It is without doubt an adult female, and is very like the specimens taken near New Orleans, save that the black of the breast is more suffused with yellow.

Helminthophila peregrina. TENNESSEE WARBLER.—On October 5 Mr. Atkins collected at Key West a male bird, young of the year, of this species, and on the succeeding day a female, also young of the year. I have not found the species on the Gulf coast of Florida.

Dendroica tigrina. CAPE MAY WARBLER.—Mr. Atkins finds this bird a rather common migrant, both in the spring and fall, at both Punta Rassa and Key West. I have taken it on a single occasion in spring near Tarpon Springs. Mr. Atkins's spring birds taken at Key West were obtained from April 11 till May 5, and in the fall they occur in the first three weeks of October.

Geothlypis agilis. CONNECTICUT WARBLER.—On May 24, 1887, one of my collectors took, on the South Anclote Key, near Tarpon Springs, an adult female Connecticut Warbler. This bird is No. 3443 of my Florida collection.

Thryothorus ludovicianus miamensis. FLORIDA WREN. — This subspecies, which the latest authority gives as being restricted to "Southeastern Florida," is the representative of the Carolina Wren found at Tarpon Springs, where, and also southward on the Gulf coast of Florida, it is common.

Cistothorus marianæ, sp. nov. MARIAN'S MARSH WREN.

To an apparently undescribed species of Marsh Wren, lately discovered in the salt water marshes at the mouth of the Anclote River, Hillsboro County, Florida, I propose to give the above name, after my wife, Marian J. Scott.

Before me is a series of fourteen birds on which the species is based, No. 4595, ♂ *ad.*, Tarpon Springs, Fla., 6th January, 1888, and No. 4594, ♀ *ad.*, Tarpon Springs, Fla., 5th January, 1888, being selected as the types of the species.*

Above olive brown, having in rare cases a slightly rufous tinge. The black area of the back much as in *C. palustris*, but not so clearly defined, and the white streaks in this area not so numerous or pronounced. Rump and upper tail-coverts with *narrow* transverse *bars* of *black*, or darker olive brown. The olive of the upper parts usually showing on the top of the head, as a median line, which is sometimes a quarter of an inch wide. On each side of this, darker brown or black, like the patch on the back. A superciliary stripe of white and dark brown feathers. Area in front of eye dark. Below white on belly and throat; flanks and sides olive, lighter than that above, and barred with darker olive or brown. The coloration of the flanks and sides usually spreads over the breast, which in many cases is dotted with small triangular black blotches. Lower tail-coverts ashy or dirty white, *barred broadly* and conspicuously with black or deep olive brown. Tail dark with lighter barring of deep ash, the bars being rarely continuous. Wings dark olive brown with darker markings. Average measurements of males: Length, 4.85; wing, 1.80; tail, 1.70; exposed culmen, .50. The average measurements of the females are appreciably less.

Iris hazel brown; bill above dark seal brown, the lower mandible being lighter at and near its base.

The great difference between this species and *palustris* is in the conspicuous barring of the upper and under tail-coverts and the feathers of the flanks, and olive instead of rufous brown coloring throughout, with the much darker coloration of underparts. I may state that with this series of birds I have taken three *palustris*, which are entirely similar to those of the northern marshes.

The new bird is quite common on all the salt marshes of this immediate vicinity (Tarpon Springs), and probably all along the west coast of Florida as far north as Cedar Keys, where it is known to occur. It is probably resident and breeds, though of this I have as yet no positive knowledge.

The extent of the dark color on the underparts varies considerably, and I have two individuals that show scarcely a trace of whitish beneath, either on throat or belly.

* [Mr. Scott has kindly presented these types to the American Museum of Natural History, New York City.—J. A. A.]

RECENT LITERATURE.

Chamberlain's Canadian Birds.*— This is not among the least of recent indications of activity of Canadian workers. It is more extensive in its scope than Mr. McIlwraith's treatise, including a systematic annotated list of all the birds of North America, north of the United States and British Boundary, excepting Alaska. Considerably more than *one-half* of North American Birds are found within these broad limits, and Mr. Chamberlain has occasion to treat 556 species. These are arranged and named according to the A. O. U. Code and Check-List, and quite fully annotated from all the information available to the author, so far as their geographical distribution is concerned. Without any other biographical matter, it makes a handsome volume of convenient size, invaluable for ready reference. In paper and typography, it is decidedly the best-looking bird-book that has reached us from 'over the line,' though not quite free from misprints, and by some oversight repeatedly giving generic names with a lower-case initial letter. But these are trifling defects, of no weight in estimating the value of the treatise. It at once takes a place of its own, distinct from Mr. McIlwraith's; and the two together very fairly represent what Canada has to offer us at present in respect of ornithology.

In his preface Mr. Chamberlain takes occasion to pointedly comment upon the backwardness in coming forward of the Canadian authorities in the matter of ornithology. His strictures should have great weight because they are simply true, and because they are said by one who has earned the right to speak by his own talents, industry and enterprise. We heartily welcome the successful outcome of the author's researches thus far, and wish him all favorable conditions for their further prosecution.—E. C.

Seebohm's 'Geographical Distribution of the Charadriidæ.'—Mr. Seebohm's book on the 'Charadriidæ,'† or 'Plovers, Sandpipers, Snipes, and their Allies,' is a large quarto, illustrated with twenty-one beautifully colored plates of species hitherto unfigured or badly figured; in typographical execution it is almost faultless, forming altogether a sumptuous specimen of book-making. The text abounds in beautiful cuts, the greater part being head-pieces or illustrations of structural details.

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* A Catalogue | of | Canadian Birds, | with | Notes on the Distribution of the Species. | By | Montague Chamberlain. | — | Saint John, N. B. | J & A. McMillan, 98 Prince William Street. | 1887. | 1 vol. cloth, sm. 4to paper, 8vo typebed, title and pp. i—vi, 1 l., 1-143.

† The | Geographical Distribution | of the Family | Charadriidæ | or the | Plovers, Sandpipers, Snipes, and their Allies. | By | Henry Seebohm | author of "Siberia in Europe," "Siberia in Asia," "Catalogue of the Birds in the British Museum" (Vol. 5), | "A history of British Birds, with coloured Illustrations of their Eggs," etc. | [Vignette—group of Avocets.] London: | Henry Sothern & Co., 136 Strand, W. C. and 36 Piccadilly, W.; | Manchester, 49, Cross Street.—No date. 4to. pp. xxix, 524, pll. xxi, numerous cuts in the text. On the back-title of the cover is the date, 1888.

He states that the work is "not a monograph," being limited to the treatment of two topics, the geographical distribution of the species and their mutual relationship, one of his chief objects being to point out what appeared to him "to be errors in their classification." Judged from this latter standpoint, we fear Mr. Seebohm's labors will not be received with much favor by the generality of his contemporaries. He further says the work "treats only of the classification of the family Charadriidæ into subfamilies, genera, subgenera, species, and sub-species. I propose for the most part to confine the descriptions of each of these groups of individuals to those characters which are diagnostic, and to make the geographical distribution of each species the *pièce de résistance* of my bill of fare" (p. 51).

As will be seen by the title, Mr. Seebohm's 'family Charadriidæ' includes birds modern ornithologists usually arrange in several families; while his classification of the genera presents strikingly original allocations, the classification here adopted being essentially that followed in the same author's 'History of British Birds.' He sets out with excellent intentions, and his work, aside from matters of nomenclature and classification, is based on sound principles and broad philosophic views. He not only nominally accepts the doctrine of evolution, but adopts it unreservedly as the basis of his work, accepting, without flinching, its "inevitable consequences." He recognizes with unstinted praise the "progressive tendency of thought" among American ornithologists, with whom "the recognition of sub-species is as much a matter of course as the admission that many species, even amongst those whose geographical distribution is very wide, show no tendency to split up into local races" (p. v). He accepts the tests we long since adopted on this side the water as the criterion for species and subspecies, namely, the non-intergradation of the former, and the intergradation of the latter. For subspecies, however, he recognizes what he terms a geographical boundary. "Whatever individual variation be found within the range of a species, if it be not also capable of being defined geographically I do not regard it of subspecific value" (p. v.). He reiterates his well-known views on the subject of what are and what are not generic characters;* but the results to which they give rise will not, we fear, gain for his views very general acceptance. In his somewhat extended 'Preface' he announces or summarizes views he presents at greater length in special chapters. Following a very full table of 'Contents' is a 'Systematic Index and Diagnosis (pp. xv-xxviii), in which he gives the 'diagnostic characters' of his groups, from subfamily to subspecies, and in which an attempt is made to indicate the strictly distinctive features of each. 'Chapter I' is devoted to the 'Classification of Birds,' which he arranges in five orders, namely: I. Anseriformes ("Owls, Eagles, Herons, Flamingoes, Ducks, Cormorants, and their allies"). II. Cuculiformes ("Goatsuckers, Cuckoos, Woodpeckers, Parrots, Kingfishers, Hornbills, Rollers, Toucans, Jacamars, Pigeons, and their allies"). III. Passeriformes ("Passerine Birds, Humming-Birds, Swifts, and their allies"). IV. Charadriiformes ("Penguins, Divers,

* On this point, see Bull. Nutt. Orn. Club, VIII, 1883, p. 100.

Grebes, Auks, Gulls, Petrels, Plovers, Snipes, Cranes, Rails, Pheasants, Tinamous, and their allies"). V. Struthioformes ("Ostriches, Cassowaries, Apteryx, and their allies"). The Charadriiformes are divided into seven suborders, of which the fourth, or 'Limicolæ,' is in turn divided into eight families, as follows: Pteroclidæ, Turnicidæ, Thinocoridæ, Dromadidæ, Charadriidæ, Otididæ, Parridæ, and Chionidæ; the 'Charadriidæ,' (= Limicolæ, 'auct. plur.') with the limits above indicated, forming the subject of the present work. He considers it "absurd" to create orders for fossil birds, as some ornithologists have done, apparently because we know so few "links" of the "endless chain!"

Passing for the present this certainly very 'original' scheme of classification without further comment, we come to 'Chapter II. The Evolution of Birds.' This chapter (pp. 1-15) we commend to the reader as a thoroughly philosophic and sensible presentation of the subject, — one of the best, from our point of view, we have ever seen, and to nearly every line of which we give hearty assent. It is a terse and able discussion of many moot points, which Mr. Seebohm, we do not hesitate to say, has treated in a masterly way. 'Chapter III. The Differentiation of Species' (pp. 16-24), is in the same line, and inspires our equally hearty indorsement. In fact, we have long held substantially the views here so well expressed and defended, and on many of the points have, on different occasions, written to the same effect, particularly in relation to so-called 'natural selection.' There is much in these two chapters we would gladly quote did space permit.

'Chapter IV. The Glacial Epoch' (pp. 25-32), is devoted to an explanation of the origin, dispersion, and present geographical distribution of the various forms of the 'Charadriidæ,' through the influence of successive periods of glaciation; in general the views here promulgated have much in their favor. 'Chapter V. Migration' (pp. 33-50) contains much that is instructive and suggestive, though some of his conclusions may be open to question.

'Chapter VI. The Paradise of the Charadriidæ' (pp. 51-58) treats at some length of the habits of these birds in their Arctic breeding-grounds, and graphically describes the physical features and the climate of the region, largely from personal experience, where so many of the northern species find their summer home.

'Chapter VII. Zoölogical Regions,' is based entirely upon the birds especially under consideration. The 'Regions'—which "have nothing whatever to do" with "the Zoölogical Regions of Sclater and others,"—three in number, are strictly climatic belts, as follows: First, an 'Arctic Region,' situated between the July isothermals of 60° and 40°. Second, a 'Tropical Region,' limited by the isothermals for July (north of the equator) and January (south of the equator) of 77°. Third, a 'Temperate Region,' divided into two by the last named region — a north Temperate and a south Temperate, the former bounded by the July isothermals of 77° and 60°, and the latter by the corresponding isothermals for January. Were the whole 'suborder Limicolæ' considered, Mr. Seebohm says "we

should be compelled to recognize an Anarctic Region," which would be characterized by the families Chionidæ and Thinocoridæ, and which "appears to be also the centre of dispersal of two suborders—the Procellaridæ and the Impennes; so that it must be regarded as a very important Region when the distribution of the whole order Charadriiformes is considered." He does not think it necessary, however, to recognize it for the 'Charadriidæ,' since so few species of this group visit it for breeding purposes. A map illustrates the regions recognized.

'Chapter VIII. On Subspecific Forms' (pp. 62-65), is thoroughly in harmony with American notions on this subject, in which Mr. Seebohm rather pointedly contrasts what he terms the "clearheadedness of American ornithologists on this point" with the "conservative views of British ornithologists." "It is only doing scant justice," he says, "to American ornithologists to admit that to them belongs the credit of having for the first time formed a clear conception of the difference between a species and a subspecies, and of having at once recognized the fact in a scientific manner in their nomenclature. . . . The primary truth, the recognition of which in some way or other is of vital importance to a clear understanding of the facts of Zoölogy, is that species in the process of differentiation do exist in considerable numbers. . . . The fact of the existence of species which consist of two or more typical forms which are connected together by an unbroken series of intermediate forms between the geographically separated extremes . . . . is the most important ornithological fact which has been discovered during the last half-century. It is a fact which has been clearly recognized by American ornithologists, and its tardy or doubtful recognition by British writers on birds is one of the psychological puzzles that are very difficult to believe, much less to explain" (pp. 64, 65).

Chapters IX-XXX (pp. 66-506), are devoted to the general subject, wherein the 'Charadriidæ,' from 'family' down to subspecies, are treated with special reference to their classification and geographical distribution. His descriptions of the several groups are brief, but are, it is claimed, diagnostic. Keys are provided for the species and genera, which we trust will prove so much more than usually servicable as to warrant the rather sharp critisism our author bestows on the similar attempts of some of his predecessors. His references are generally limited to the citations of synonyms, and to a few works treating specially of the habits and eggs of the species or subspecies, or giving figures of the birds or their eggs. Trinomials are consistently employed, but the law of priority is, as usual with Mr. Seebohm, altogether ignored. There is little formal reference to the 'auctorum plurimorum' rule,* but in the selection of names, particularly for subspecies, he is governed on some occasions by this principle and in others by his personal preferences. A foot-note on page 100, under *Charadrius fulvus americanus*, affords a case in point: "Of the three names, *americanus*, *dominicus*, and *virginicus* [applied to the American Golden Plover], the first is the most expressive, the second is the oldest,

* See Auk, II, 1885, p. 89.

and the third has been most used. I adopt the first, on the ground that in accepting a trinominal nomenclature as a necessary evil an ornithologist has a perfect right to dictate the terms on which he accepts it. The only way to prevent the indefinite use of trinomials is to make them temporary!" Such vagaries are beyond criticism.

Mr. Seebohm's classification, as regards his subfamilies and genera, is simply unique — emphatically Seebohmian. He tells us that one of his objects in writing a book on Limicoline birds was to correct what appeared to him "to be errors in their classification," and to help clear up and set in order the 'chaos' of the present phase of the subject, consequent upon passing from "the artificial system of the last century to the natural system, which may possibly be discovered in the next." A glance at his 'Systematic Index and Diagnoses' (pp. xv-xxviii) is sufficient to show that a more arbitrary or 'artificial' system would be hard to find. The absence or presence of a membrane connecting the base of the toes, or the situation of the nostril in the basal fourth of the bill or beyond it, determine alike the composition of his 'subfamilies' and the relationship of his genera,— characters of, at best, exceedingly slight importance, and variable in even strictly congeneric species, otherwise most closely allied. Such superficial characters being allowed to outweigh others of much greater importance, including those more or less affecting the general structure and habits of the species, it is not surprising that *Hæmatopus* is placed in his subfamily 'Totaninæ,' and *Strepsilas* in his subfamily Scolopacinæ, next to *Tringa*. As consistency is not one of Mr. Seebohm's leading characteristics, it is quite natural to read, in the face of this arrangement, "The Turnstones are so nearly allied to the Plovers that it is doubtful whether they ought to be separated from them" (p. 407). We find the Turnstones, however, separated from the Plovers, in Mr. Seebohm's book, by all of the strictly Totanine forms! The genera *Macrorhamphus* and *Micropalama* are included in his 'genus' *Ereunetes!*

A large part of the text is devoted to the geographical distribution of the species and higher groups, and to speculation as to their ancestral history and genetic relations. Many of his hypotheses are probable, though resting not unfrequently on a very airy groundwork. Mr. Seebohm evidently has not made himself thoroughly familiar with all that has been written by even the later and most trustworthy authorities on some of the points he treats with great positiveness, and did space permit it would be easy to give numerous instances of oversight or carelessness. The A. O. U. Check-List of North American Birds is cited as "Coues & Co. Check-List N. Amer. Birds,"—with just what intent is not obvious.

Mr. Seebohm's material for the basis of his work seems to have been extensive and of excellent quality, he having purchased for the purpose the well-known Harting, Shelley, and Swinhoe collections, and having had access to the resources of the British Museum. He recognizes 192 species and 40 subspecies, which he arranges in 19 genera and 3 subfamilies. Despite what we have felt called upon to say in criticism of the descriptive portion of the work, the author has brought together a vast

amount of thoroughly trustworthy and interesting information about the birds he treats, and the work will prove of great usefulness as a handbook for this extensive group of birds. We regret that certain idiosyncrasies of classification and nomenclature prevent our according to the work as a whole the same high praise we so gladly give to the introductory chapters, which show that his ideas on many points have wonderfully clarified since he wrote the 'Introduction' to his 'History of British Birds,' some five years ago.—J. A. A.

Ridgway on New or Little-known American Birds.—In the 'Proceedings' of the U. S. National Museum, Mr. Ridgway has published during the last few months descriptions of a number of new species and subspecies of American birds, with notes on others little known, as follows:

(1) *Cotinga ridgwayi* Zeledon MS., from Western Costa Rica.* The species is allied to *C. amabalis*, of which it is the western representative. (2) *Spindalis zena townsendi*,† from Abaco Island, Bahamas, collected by Mr. Charles W. Townsend. (3) He has also described the female of *Carpodectes antoniæ* Zeledon.‡ (4) *Porzana alfari*,§ from Costa Rica, allied to *C. albigularis* Lawr. (5) *Callipepla elegans bensoni* from Campos, Sonora,‖ based on five specimens collected by Lieut. H. C. Benson, U. S. A. (6) *Picolaptes rikeri* Ridgw. is made the type of a new genus *Berlepschia*.¶ (7) *Phacellodomus inornatus* from Venezuela,** and allied to *P. frontalis*. (8) *Megascops vermiculatus*, from Costa Rica, and *Megascops hastatus*, from Mazatlan.†† (9) *Muscisaxicola occipitalis*, from Lake Titicaca, Peru.‡‡ (10) In a paper on *Phrygilus gayi* and allied species, §§ *P. punensis* is described as new, and *P. atriceps*, *P. gayi*, and *P. formosus* are discussed at length, each being described in detail. He endeavors to show "that *Emberiza aldunatei* Gay is a pure synonym of *Fringilla gayi* Eyd. & Gerv., and that *Phry-*

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* Description of a New Species of *Cotinga* from the Pacific Coast of Costa Rica. By Robert Ridgway. Proc. U. S. Nat. Mus., 1887, pp. 1, 2 (April 25, 1887).

† Description of a New Form of *Spindalis zena* from the Bahamas. Ibid., p. 3.

‡ Description of the adult female of *Carpodectes antoniæ* Zeledon; with critical remarks, notes on habits, etc., by José C. Zeledon. Ibid., p. 20 (April 25, 1887).

§ Description of a New Species of *Porzana* from Costa Rica. Ibid., p. 111.

‖ Description of a new Plumed Partridge from Sonora. Ibid., pp. 148-150 (July 2, 1887).—No allusion is here made to its prior description in 'Forest and Stream' (Vol. XXVIII, No. 6, p. 106, March 3, 1887. See Auk, IV, p. 156, April, 1887).

¶ Description of a New Genus of Dendrocolaptine Bird from the Lower Amazon. Ibid., p. 151.

** Description of a New Species of *Phacellodomus* from Venezuela. Ibid., p. 152.

†† Description of two New Species of Kaup's Genus *Megascops*. Ibid., pp. 267, 268 (Aug. 1, 1887).

‡‡ Description of a New *Muscisaxicola* from Lake Titicaca, Peru. Ibid., p. 430 (Nov. 3, 1887).

§§ On *Phrygilus gayi* (Eyd. & Gerv.) and Allied Species. Ibid., pp. 431-435 (Nov. 3, 1887).

gilus formosus (Gould) is the proper name for the smaller and brighter colored species which Messrs. Sclater and Salvin, and others following them, have considered to be the true *P. gayi*."

In addition to the foregoing, Mr. Ridgway has published (11) 'A Review of the Genus *Dendrocincla* Gray,'* of which 12 species are recognized, three being described as new, namely, *D. lafresnayei*, *D. rufo-olivacea*, and *D. castanoptera*. A key to the species is given, followed by the synonymy of each, and critical remarks.

Ridgway on Wuerdemann's Heron. — Mr. Ridgway gives the results of an examination of eight specimens of *Ardea wuerdemanni*,† which throw much light on the character and status of a bird so little known two years ago that it was assigned to the 'Hypothetical' section of the A. O. U. Check-List. After describing each example in detail (one of which "is clearly intermediate between *A. wuerdemanni* and *A. wardi*, and may possibly be a bybrid between the two"), he states that "the characters of *A. wuerdemanni* are not only very pronounced but fairly constant," and thus summarizes them: "(1) Head entirely white, excepting (usually) dusky or blackish streaks on forehead or median portion of the crown, but even these sometimes absent. (2) Shoulder-tufts or epaulets broadly striped with white, and with black portions of the feathers sometimes partially replaced by rusty. (3) Lower parts chiefly white, sometimes only the breast being streaked with dusky. (4) Lowermost middle (and sometimes greater) wing-coverts marked with a median streak of white (this sometimes occupying a considerable portion of the outer web). (5) Outer pair of tail-feathers with a well-defined wedge-shaped mark occupying basal half (approximately) of outer web." He concludes that *A wuerdemanni* "would seem to be a permanent form, however, and, if not a color-phase of *A. occidentalis*, is probably a distinct species."—J. A. A.

Ridgway on the Breeding of Trogon ambiguus in Arizona. — Mr. Ridgway describes a specimen of this species,‡ in first plumage, taken by Lieut. H. C. Benson, U. S. A., in the Huachuca Mountains, Arizona, August 24, 1885. This not only proves the existence of a Trogon in Arizona, but that it breeds there. This is probably the species referred to by Mr. W. E. D. Scott, in 'The Auk' for October, 1886 (Vol. III, p. 425), as having been reported to him as occurring in the Catalina Mountains. The species is thus now positively added to the list of Arizona birds. —J. A. A.

Stejneger on Japanese Birds. — In describing a new species of *Turdus* (*T. jouyi*) Dr. Stejneger gives a synopsis§ of the Japanese species of the

* Ibid., pp. 488-497 (Jan. 6, 1888).

† Notes on *Ardea wuerdemanni*. Ibid., 1887, pp. 112-115 (July 2, 1887).

‡ *Trogon ambiguus* breeding in Arizona. Ibid., p. 147.

§ Review of Japanese Birds. By Leonhard Stejneger. IV. Synopsis of the Genus *Turdus*. Proc. U. S. Nat. Mus., 1887, pp. 4, 5 (April 25, 1887).

genus, preliminary to a fuller account to be published later. He has also published a review of the Japanese Ibises, Storks, and Herons,* treating the subject in great detail, but with not wholly satisfactory results, owing to the scanty material available for study. Two new subgenera (*Nannocnus*, p. 291, type *Ardetta eurhythma* Swinh.; *Phoyx*, p. 311, type *Ardea purpurea* Linn.) are characterized, and the name *Nyctanassa* (p. 295) is substituted for *Nyctherodius* Reich., which is antedated by *Nicterodius* Macgill., = *Nycticorax* Forster. A Heron, allied to *Demiegretta jugularis* Wagl., is described (p. 300) as *D. ringeri*, sp. n.

The sixth instalment of Dr. Stejneger's 'Review of Japanese Birds' treats of the Pigeons,† the species recognized as Japanese numbering 12, the characters and synonymy of which are discussed at length.

Dr. Stejneger also has a paper on the systematic name of the Kamtschatkan and Japanese Carrion Crow,‡ in correction of an error in his 'Results of Ornithological Explorations in Kamtschatka and the Commander Islands,' wherein he referred the species to the 'Black Hill Crow' of India (*Corvus levaillantii* Less.). The species belongs to the *C. corone* group, and should stand as *Corvus corone orientalis* (Eversm.).

Additional collections of birds from the Liu Kiu Islands§ enable Dr. Stejneger to throw further light upon the ornis of this interesting group of islands, the new material adding 14 species to the 63 previously known from there, making 77 in all, 12 of which are peculiar to these islands. Besides extended technical annotations, four species are described as new, namely, *Porzana phæopyga*, *Euryzona sepiaria*, *Turtur stimpsoni*, and *Passer montanus saturatus*. A tabular catalogue of the species, giving references to the previous papers on the subject, concludes the article.

He also gives an annotated list of birds collected by Mr. M. Namiye, in the Islands of Idzu,‖ situated just south of Yokohama. These outlying Japanese islands were previously wholly unexplored, and therefore of special interest. The species obtained are 22 in number, and include a Thrush (*Turdus celænops*) new to science. — J. A. A.

Stejneger on Hawaiian Birds.¶ — Several valuable collections of birds received at the U. S. National Museum from Mr. Valdemar Knudsen,

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* Review of Japanese Birds. V. Ibises, Storks, and Herons. Proc. U. S. Nat. Mus., 1887, pp. 271-319 (Aug. 1, 1887).

† Review of Japanese Birds. VI. The Pigeons. Ibid., pp. 416-429, pl. xxii (Nov. 3, 1887).

‡ On the systematic name of the Kamtschatkan and Japanese Carrion Crow. Ibid., pp. 320, 321 (Aug. 3, 1887).

§ Further Contributions to the Avifauna of the Liu Kiu Islands, Japan, with Descriptions of New Species. Ibid., pp. 391-415, pll. xxi, xxii (Nov. 3, 1888).

‖ On a Collection of Birds made by Mr. M. Namiye, in the Islands of Idzu, Japan. Ibid., pp. 482-487 (Jan. 6, 1888).

¶ Birds of Kauai Island, Hawaiian Archipelago, collected by Mr. Valdemar Knudsen with Descriptions of New Species. Ibid., pp. 75-102 (May 17, July 2, 1887).

made by him in the island of Kauai, Hawaiian Archipelago, enable Dr. Stejneger to give a very full account of the ornithology of a hitherto little-known and exceedingly interesting region. Besides the full synonymy and copious technical annotations, one genus and six species are described as new, as follows: (1) *Gallinula galeata sandvicensis*, (2) *Himantopus knudsoni*, (3) *Chasiempsis dolei*, (4) *Phœornis myiadestina*, (5) *Himatione parva*, and (6) *Oreomyza* (gen. nov.) *bairdi*.

In a later paper* he adds to the list *Psittirostra psittacea*, two specimens of which are described, and the question is raised as to whether there may not be two species of *Psittirostra* in the Sandwich Islands, in view of Temminck's description and figure differing from the specimens here described, etc. — J. A. A.

Stejneger on Birds of the Commander Islands.† — Additional material received at the National Museum since the publication of his 'Results of Ornithological Explorations in Kamtschatka and the Commander Islands' has led Dr. Stejneger to prepare the present 'Catalogue,' the 'conclusions' to be drawn from this further consideration of the subject being reserved for a subsequent paper. Considerable space is given to a discussion of the status of *Larus schistisagus* and its relationship to *L. affinis*, with the conclusion that the two species are unquestionably distinct. Under *Stercorarius parasiticus* the probable moulting of the 'nasal cuirass' in the *Stercorarii* is considered, the indication being that "the process of shedding is as regular in the *Stercorarii* as in the Puffins."

Under *Ægialitis mongola* several pages are devoted to showing that *Æ. pyrrhothorax* is a synonym of *Æ. mongola*. There are also extended technical notes on *Actodromas couesi*, *Limosa limosa melanuroides*, *Numenius cyanopus*, *Falco rusticolus*, and *?Butalis griseisticta*. In all 143 species are commented upon. — J. A. A.

Stejneger on Palæarctic Bullfinches. — In a paper‡ of seven pages Dr. Stejneger reviews the species of *Pyrrhula*, treating of the following: (1) *P. cassini* (the type specimen of which is affirmed to be a female instead of a male), later named *P. cineracea* by Cabanis; (2) *Pyrrhula pyrrhula*, or common European Bullfinch, which is divided into the two subspecies, *europæa* (Vieill.) and *kamtschatica* (Tacz.); (3) *P. griseiventris;* and (4) *P. kurilensis*. Their synonymy is given, and a considerable series of specimens of *P. griseiventris* is described and discussed, with the result of dismissing *P. rosacea* Seebohm as a pure synonym of *P. griseiventris*, in agreement with Blakiston and Jouy. — J. A. A.

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* Notes on *Psittirostra psittacea* from Kauai, Hawaiian Islands. Proc. U. S. Nat. Mus., 1887, pp. 389, 390 (Nov. 3, 1887.)

† Contributions to the Natural History of the Commander Islands. No. 7. — Revised and Annotated Catalogue of the Birds inhabiting the Commander Islands. Proc. U. S. Nat. Mus., 1887, pp. 117-145 with three plates (July 2, 1887).

‡ Notes on the Northern Palæarctic Bullfinches. Proc. U. S. Nat. Mus., 1887, pp. 103-110 (July 2, 1887).

Lucas on the Osteology of the Spotted Tinamou. — These 'Notes'* point out briefly various osteological differences between the present species and some of its allies, as described and figured by Parker. Figures are given of the skull and pelvis. — J. A. A.

Shufeldt on Bird Skulls and Sterna collected by Dr. Streets.† — This report relates to the skulls and sterna of 13 species, mostly water-fowl. They include such various types as *Urinator*, *Daption*, *Pelecanoides*, *Cepphus*, *Sula*, *Larus*, *Chlœphaga*, *Ardea*, *Nycticorax*, *Geococcyx*, and *Corvus*. The sternum of *Daption capensis*, with the shoulder girdle *in situ*, is figured; also the skulls of *Chlœphaga poliocephala*, *Nycticorax nycticorax nœvius*, and *Corvus corax sinuatus*. — J. A. A.

Chamberlain's 'Systematic Table of Canadian Birds.' — We are in receipt of a second work by Mr. Montague Chamberlain on the birds of Canada. This, as the title‡ indicates, is a tabular list of the birds of Canada, as given in the same authors' 'Catalogue of Canadian birds.' The 'Systematic Table' is thus a 'check-list' and a 'table of higher groups' combined. The names of orders and suborders form subheadings, while the names of families, subfamilies, genera, subgenera, species, and subspecies, English names, and current numbers are arranged in parallel columns, each species or subspecies thus occupying a line running across the page. This arrangement requires a very broad page, but will doubtless subserve a useful purpose.

In the 'Introduction' to this work the author gives a condensed sketch of the history of American ornithology, particularly since 1859. He also notes the tendency to extreme conservatism respecting species and subspecies, etc., among Canadian naturalists as compared with those of the United States, a conservatism obviously resulting from a difference of attitude respecting the "evolution theory of the origin of species." This theory, Mr. Chamberlain says, while accepted by the greater part "of the scientific men of the United States . . . . as an established fact, rather than a mere hypothesis," is considered "by Canadian students, as a rule, as 'not proven.'" This state of affairs seems to have suggested "that an association of Canadian ornithologists be organized, and that this society undertake the formulation of a system of classification and nomenclature which shall more truly reflect the ideas on the subject which are current in the Dominion." Mr. Chamberlain, while conceding that the formation of such an association might greatly promote the advancement of ornithol-

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* Notes on the Osteology of the Spotted Tinamou (*Nothura maculosa*). By Frederic A. Lucas. Proc. U. S. Nat. Mus., 1887, pp. 157, 158 (July 2, 1887).

† On a Collection of Birds' Sterna and Skulls, collected by Dr. Thomas H. Streets, U. S. Navy. By Dr. R. W. Shufeldt. Proc. U. S. Nat. Mus., pp. 376-387 (Sept. 27 to Nov. 3, 1887).

‡ A Systematic Table | of | Canadian Birds. | By | Montague Chamberlain. | Published for the Author. | St. John, N. B. | 1888. Fol. pp. 14.

ogy in Canada, very promptly and effectually disposes of the rest of the scheme as impracticable and mischievous. He states, in very plain terms, that Canada has not at present the means for undertaking such a task, having neither ornithologists equipped with the requisite experience and technical knowledge of the subject, nor collections sufficiently large to serve as anything like an adequate basis for such work. He very rudely pricks the bubble of Canadian assumption by stating some very plain facts, namely: "If all the bird skins in the Dominion were combined they would not make a good working collection. In no one Museum in the country are the birds of even a small locality well represented. There are a few creditable private collections, but none of these contain a sufficient series of skins to show the variations in plumage of all the species—the variations of sex and age and seasons, to say nothing of individual and geographical variation." This is not said unkindly, nor with a view so much to expose the weakness of Canadian ornithological resources, as to arouse greater activity, and particularly to stimulate interest in ornithology and kindred sciences in Government circles, in connection with the present Canadian Geological Survey. While this Survey has done admirable work in many departments of science, and has earned an enviable reputation for the originality and thoroughness of its work, it has given little attention to zoölogy. This seems primarily due to an impression, rather generally entertained across the border, that the animals of Canada are already well-known. We trust that Mr. Chamberlain's plain statements, his appeals, and his example of energetic and intelligent activity in his favorite fields of ornithology and mammalogy, will arouse general interest and lead to fruitful results. — J. A. A.

Sclater and Hudson's 'Argentine Ornithology.'*—A hand-book of the birds of any portion of South America is sure to meet a 'long-felt want,' and when undertaken by authors so well fitted for the task as in the present case is to be especially welcomed. Dr. Sclater's long familiarity with 'Neotropical' birds renders him eminently qualified for the technical portion of the work; while Mr. Hudson's long residence in the Argentine Republic, and his unquestioned ability as an observer, imparts to the biographical part an equal trustworthiness. Rarely more than a page is devoted to a species, 229 species being treated in a space of 208 pages. Some of the more common or better known species are noticed by Mr. Hudson at considerable length, while in other cases there is little more than the technical description. Mr. Barrow's notes on the 'Birds of the Lower Uruguay,' published in this journal, 1883–84, are often quoted at length. References are given to the special literature of the subject. The technical

* Argentine Ornithology. | A | Descriptive Catalogue | of the | Birds of the Argentine Republic. | By | P. L. Sclater, M. A., Ph.D., F. R. S., Etc. | With Notes on their Habits | by | W. H. Hudson, C. M. Z. S., | late of Buenos Ayres | [Vignette]. The Cariama. | — | Volume I. | — | London: | R. H. Porter, 6 Tenterden Street, W. | 1888. 8vo, pp. i–xv, 1–208, pll. col. i–x.

descriptions are brief, rarely occupying more than five to ten lines, and relate generally to the adult plumage only. It is, therefore, what it purports to be, a 'Descriptive Catalogue,' rather than an elaborate treatise, and despite the absence of much that might be desired, did the scope of the work render it admissable, will prove extremely useful as a manual of Argentine ornithology. Ten beautifully colored plates illustrate the first volume, devoted to the Passeres. Volume II, treating the remaining orders, is announced to appear during the present year. — J. A. A.

Publications Received.—Berlepsch, Hans von. (1) On the Genus *Cyclorhis*, Swain. (Ibis, 1888, pp. 83-92.) (2) Descriptions of two new Species of Birds from Bogota, Colombia. (Ibid., pp. 128-130.) (3) Kritische Uebersicht der in den sogenannten Bogota-Collection (S. O. Colombia) vorkommenden Colibri-Arten und Beschreibung eines neuen Colibri (*Cyanolesbia nehrkorni*). (Journ. für Orn., Jahr. 1887, pp. 313-336. Also separate, pp. 24, Jan. 1888.)

Brewster, W. On three apparently new Subspecies of Mexican Birds. (Author's advance separates, Auk, V, pp. 136-139. Pub. Feb. 10, 1888.)

Brodie, W. The European Sparrow. *Passer domesticus.* (1 leaf, 4to size, no date).

Bryant, W. E. (1) Unusual Nesting Sites. II. (Bull. Cal. Acad. Sci., 2d Ser., Vol. I, pp. 7-10. Separates dated Dec. 20, 1887.) (2) Birds and Eggs from the Farallon Islands. (Ibid., pp. 25-50.)

Butler, A. W. Notes concerning Albinism among Birds. (Journ. Cincinnati Soc. Nat. Hist., Jan. 1888, pp. 214-216.)

Chamberlain, M. (1) A Catalogue of Canadian Birds, with Notes on the Distribution of the Species. Saint John, N. B.: J. and A. McMillan, 1887. 8vo, pp. v, 143. (2) A Systematic Table of Canadian Birds. Fol., St. John, N. B.

Dury, C. Albinos in the Cuvier Club Collection. (Journ. Cincinnati Soc. Nat. Hist., Jan., 1888, pp. 216, 217.)

Lucas, **F. A.** The Flight of Birds. (Science, Vol. XI, p. 58, Feb. 3, 1888.)

Menzbier, **M. von.** Vergleichende Osteologie der Penguine in Anwendung zur Haupteintheilung der Vögel. (8vo, pp. 105. Ex. du Bull. Soc. Imper. des Nat. de Moscow, 1887.)

Morse, E. A. Presidential Address, delivered before the American Association for the Advancement of Science, at the New York meeting, Aug. 1887. (8vo, pp. 43.)

Nehrling, H. Der Haubentyrann (*Myiarchus cristatus* Cab., Great-crested Flycatcher). Monatssch. des Deutschen Ver. zum Schutze der Vogelwelt, Jahr. XII, 1887, pp. 95-99.) (2) Der Königsvogel (*Tyrannus carolinensis* Temm., Kingbird). (Ibid., pp. 211-217.)

Sclater, P. L., and W. H. Hudson. Argentine Ornithology. Vol. I, 1888. 8vo, pp. xv, 208, pll. 10.

Sharpe, R. B. (1) Notes on a Collection of Birds made by Mr. John Whitehead, on the Mountains of Kina Balu, in Northern Borneo, with Descriptions of new Species. (Ibis, Oct. 1887, pp. 435-454, pll. xiii,

xiv.) (2) Notes on specimens in the Hume Collection of Birds. No. 5. On *Syrnium maingayi*. (Proc. London Zool. Soc., 1887, pp. 470–478.) (3) On a Second Collection of Birds formed by Mr. L. Wray in the Mountains of Perak, Malay Peninsula. (Ibid., pp. 431–443, pll. xxxvii-xxxviii.) (4) Report on a Zoological Collection made by the Officers of H.M.S. 'Flying Fish' at Christmas Island, Indian Ocean. II. Birds. (Ibid., pp. 515, 516, pl. xliii.) (5) On a new species of *Calyptomæna*. (Ibid., pp. 558.)

Shufeldt, R. W. Audubonian Sketches. I, II. (Aud. Mag., Vol. I, pp. 268–271; Vol. II, pp. 1–6.)

Agassiz Companion, II, No. 12, Dec., 1887.

American Field, XXIX, Nos. 1-11, 1888.

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Ottawa Naturalist, I, Nos. 11-13, Jan.-Mch., 1888.

Proceedings Acad. Nat. Sci. Phila., 1887, Pt. III, Sept.-Dec.

Proceedings U. S. Nat. Mus., 1887, pp. 449-496.

Swiss Cross, III, Jan.-Mch., 1888.

Zoologischen Anzeiger, Nos. 267-273.

Zoologist, XII, Jan.-Mch., 1888.

GENERAL NOTES.

Æchmophorus occidentalis in Kansas. — I wish to place on record the capture on the Kansas River at this place, on Nov. 3, 1887, of a young male of the Western Grebe, *Æchmophorus occidentalis* (Lawr). It was shot by a colored man, who brought it to me as a curious bird. The species has never before been taken farther east than Manitoba and the Gila River in New Mexico. Its capture here extends its eastward range more than a thousand miles. The following measurements were taken:

Length, 641; extent, 904; wing, 205; outer toe, 84; middle toe, 79; tarsus, 78; culmen, 67; head, 57; gape, 80; height of bill at base, 14.5.

The widening of the river for about two miles by the Lawrence dam affords a specially attractive halting place for numerous waterfowl. Only a few days before this capture Mr. A. L. Bennett shot a specimen of the Surf Scoter (*Oidemia perspicillata* Linn.) at the same place, which thus had the honor of furnishing within one week two new birds for the Kansas list.—F. H. Snow, *Lawrence, Mass.*

Puffinus borealis at Gardiner's Bay, N. Y.—Stragglers from the large flight of Cory's Shearwaters, which occurred in September and October, 1886, off Gay Head,* Mass., seem to have reached Long Island, N. Y. I recently obtained a specimen taken by Mr. W. W. Worthington, in Gardiner's Bay, Long Island.

This is, I believe, the first recorded specimen from New York.—Arthur P. Chadbourne, *Cambridge, Mass.*

Eggs of the Ivory Gull (*Gavia alba*).—The National Museum at Washington, D. C., has recently received a set of two eggs, of the rare Ivory Gull (*Gavia alba*). A short description of these may be of interest to the readers of 'The Auk.' These eggs were taken, with seventeen others, at Storöen (Great Island) on the northeast coast of Spitzbergen, in 80° 9′ north latitude, by Captain E. Johannsen, of Tromsö, Norway, who found a small colony of these birds breeding there, and secured a number of the adult and young of this species, as well as the above mentioned number of eggs, *on August 8, 1887*. All the eggs taken contained large embryos, and were on the point of hatching. It is remarkable that birds should nest so late, in such a climate and so near the pole.

Previous to this find, but four eggs of this species were known to science. According to Mr. Henry Seebohm, the distinguished English ornithologist, these are deposited as follows: One egg, obtained by Mc'Clintock, in the Museum of the Royal Dublin Society; two eggs, obtained by Malmgren, are in the Slockholm Museum, and a fourth is in the collection of Mr. Benzon in Copenhagen. Mr. Seebohm describes the specimen in the Dublin Museum as measuring 2.45 inches in length and 1.70 inch in breadth. Ground color buffish olive, and the surface markings, which are distributed over the entire shell, as dark and pale brown, and the underlying markings, which are very large and conspicuous, as violet gray. See 'History of British Birds,' by Henry Seebohm, Vol. III, pp. 337-339.

The two eggs in the National Museum Collection measure 2.36 × 1.76 and 2.26 × 1.67 inches respectively. Their ground color is buffish olive; in one egg, somewhat paler, perhaps more of an olive drab tint. The surface markings, more or less irregularly distributed over the entire egg, vary from clove-brown to bistre. The underlying or shell-markings vary

* Baird, Auk, Vol. IV, 1887, p. 71.

from slate to lilac-gray in tint, and predominate in the larger specimen. In the smaller and darker one, both styles of markings are about equally distributed. The two kinds of spots vary considerably in size and shape. —CHAS. E. BENDIRE, *Washington, D. C.*

The Old-squaw (*Clangula hyemalis*) in South Carolina.—On the 30th of December, 1887, I was informed by my friend, Mr. Henry Hunter, that he had shot a pair of 'Long-tailed' Ducks, in Charleston Harbor, and, in fact, within a few rods of the Sea Wall of the Battery. I at once went with him to his house to see the birds, but to my dismay, I found that the cook had been ahead of me, and the picked bodies and severed heads were gravely spread before me. From the heads I identified the mortal remains as, beyond a doubt, those of *Clangula hyemalis*. Upon my representing to Mr. Hunter the rarity of the bird so far to the south, he promised to keep a close watch and try and procure another, and on the 16th of January, 1887, sent me word that he had a specimen for me. This, like the former, was shot within a hundred yards of the city, and during a mild spell of weather, though it had been quite cold. The Duck was a female and lacked the lengthened tail-feathers. It was not fat, but was in fair winter plumage, and is the only Duck whose head I have been able to draw through the skin of the neck. The specimen is now in my collection. On January 20, Mr. Hunter wounded a male 'Old Wife' (a *lucus a non lucendo*), which he said had a very long tail. The bird dove, and owing to the extreme roughness of the water he was unable to see anything more of it. There had been three of them swimming together. The same gentleman informs me that a few winters ago, in about 1883, his brother stood in his yard, which faces the water, and shot a specimen of *Clangula hyemalis* that was feeding in the shallow water near by.

The Ducks in Charleston Harbor during the winter come very close to the Sea Wall around the Battery, and I have frequently seen the Lesser Black-head, the Buffle-head, the Grebe, and once a fine male Golden-Eye, so close that I could distinguish the iris, or in military parlance "see the whites of their eyes."

I think that this will prove the most southern record of *C. hyemalis*, as yet; at least I can find none other so far south.—ELLISON A. SMYTHE, JR., *Charleston, S. C.*

Surf Scoter (*Oidemia perspicillata*) in Kansas. — I would like to record the first appearance in this State, of the Surf Scoter (*Oidemia perspicillata*). The specimen was shot by myself above the dam across the Kansas River at Lawrence, Kansas, Oct. 29, 1887. The bird was not in company with any other Ducks. It is a young male, with the characteristic large bill with two round, horny plates on the side near the base. The two loral and auricular white patches are well defined; below dusky black; rest of plumage black or nearly so. The bird is mounted and in my collection. The following are the measurements: Length, 18.88; extent of wings, 32.60; wing, 9.25; tail, 2.98; tarsus, 1.81; middle toe and claw, 2.96; chord of culmen, 1.60; bill along gape, 2.38. — A. L. BENNETT, *Lawrence, Kan.*

Note on Rostratulinæ.—It would appear that Vieillot instituted the genus *Rostratula* in 1816, before Cuvier proposed *Rhynchæa* for the same Painted-snipe, though the former name has never become current. These Snipes are peculiar in several respects, and especially in those secondary sexual characters for which the female is conspicuous, among which are the tracheal convolutions. In any system which recognizes several families of charadriomorphic birds, such characters would seem to be of more than generic value.—ELLIOTT COUES, *Washington, D. C.*

The Wild Turkey in Massachusetts.—When a pupil of the Public Latin School in Boston in 1837-38, I spent a portion of my summer vacations in Northampton. I distinctly remember conversing with some of the town's people at those times in regard to the existence of a flock of Wild Turkeys (*Meleagris gallopavo*) which had frequently been seen in the neighborhood of Mount Holyoke. I was much interested in the circumstance, which even then was deemed very unusual.

These birds had the range of a large tract of wild mountainous country, in some parts almost inaccessible and impassable, lying at the base of and comprising Mount Holyoke, and to the southwest also including Mount Tom and its surroundings. An incident occurring at this period serves to show the character of this district. A stranger ascended Mount Holyoke to enjoy the view from its summit. In descending he missed the path, and becoming bewildered, wandered away into the forests at the base. Here he passed two or three days before he succeeded in extricating himself in a famished condition, and having upon his person only a small portion of the holiday attire in which he ascended the mountain.

I am unable to state the exact period at which this flock became exterminated, but should say that it must have been in 1840, or thereabouts.

My friend, Mr. J. A. Allen, has kindly given me the following references on this subject, which I have looked up.

Hitchcock in his 'Geological Report of Massachusetts,' 1883, says, "Wild Turkeys are frequently met with on Mount Holyoke." In the same volume, Dr. Ebenezer Emmons, in his list of the birds, says, "The Wild Turkeys have now become scarce and nearly extinct."

In a communication to the 'Bulletin' of the Nuttall Ornithological Club (Vol. I, 1876), Mr. J. A. Allen says, "According to John Josselyn the Wild Turkeys began early to decline." This author, writing in 1672 ('New England's Rarities') says, "I have also seen three score broods of young Turkies on the side of a marsh sunning of themselves in a morning betimes, but this was thirty years since, the English and the Indians have now destroyed the breed so that it is very rare to meet with a wild Turkey in the Woods, but some of the English bring up great stores of the wild kind which remain about their Houses as tame as ours in New England."

Thompson, in his 'History of Vermont,' says, under date of 1842, "A few of the Wild Turkeys continue still to visit and breed upon the mountains in the southern part of the state."

In a communication to the 'Proceedings' of the Essex Institute, under

date of May 2, 1864, Mr. Allen says, "The Wild Turkey is now probably extinct in this State. Within a few years it has been said to occur wild on Mts. Tom and Holyoke, but I can find no authentic instances of its recent capture in this State. It is well known that the domestic turkey will sometimes take to the woods, assuming the habits of the wild bird. Hence these reports may well be received with considerable caution."

In Baird, Brewer, and Ridgway's 'Land Birds,' Vol. III, 1874, we find the following: "It has probably become an extinct species in New England, though within a few years, individuals have been shot in Montague, Mass., and in other towns in Franklin County."

We must consider, then, that the fate of this noble bird, not only in Massachusetts but in New England, has been decided for many years, and the same fate awaits it in all the other States, where it still lingers, unless means are early adopted to prevent its complete annihilation. — D. D. SLADE, *Museum of Comparative Zoölogy, Cambridge, Mass.*

The European Kestril in Massachusetts—A Correction.—In 'The Auk' for January last (Vol. V, p. 110), the locality of capture for the specimen of this species there recorded should read Strawberry Hill, Nantasket Beach, Mass., instead of "Nantucket," Mass.—CHARLES B. CORY, *Boston, Mass.*

First Occurrence of the Western Red-tail in Ontario.—I have obtained from M. J. Dodds, St. Thomas, Ont., a fine adult of the Western Red-tail (*Buteo borealis calurus*), which was killed near there in the fall of 1885, by John Oxford. This appears to be the first recorded occurrence of this species in Ontario. At the same time I procured from him an Ontario specimen of the Sandhill Crane, killed at Roudeau in 1869 by the same man, which is interesting from the probability that Ontarians have seen their last living examples of this species in the Province, and there are but very few native specimens in existence.—W. E. SAUNDERS, *London, Ont.*

Dichromatism in the Genus Nyctidromus. — During my examination of this group, Mr. J. A. Allen called my attention to a number of particularly red or rich cinnamon colored birds, among the twenty-seven specimens from Matto Grosso, Brazil, which belong to the American Museum of Natural History, and were collected by Mr. Herbert H. Smith.

Having before me a number of specimens from other localities belonging to the National Museum, the American Museum of Natural History (the Lawrence collection in particular), I also find this dichromatism, though to a less extent. Judging from the material at my command, it seems to be prevalent only about and south of the equator, although it may be looked for in a lesser degree in Mexico and Texas. These two phases—the red and gray—are analogous to those so well known to exist in our common Screech Owls of the genus *Megascops*. I find that in Matto Grosso, Brazil, one out of every three are in the red phase; in

Cayenne, Ecuador, and through the northern part of South America, about one in six are red; in Panama and Central America, about one in ten are red; while of the thirty or more examined from the region north of Central America, no definite red phase is perceptible.

So much has been written during the last hundred years upon the birds of this genus that it is possible these two phases of plumage have been noticed and recorded; but in looking over all the references made by English and American naturalists I fail to find any notice of its occurrence. I therefore give my observations for what they are worth, as aids to the interesting though but little understood subject of dichromatism among birds.—Geo. B. Sennett, *Am. Mus. Nat. Hist., New York City.*

On the Further Occurrence of Otocoris alpestris praticola in Chester County, South Carolina.—That the advent of Prairie Horned Larks does not alone depend upon exceptional cold in this immediate region is manifest; for the past winter has been noteworthy for its clemency and for the presence of these birds in comparative abundance. December 3, the first specimens of the season were secured, but a small flock, presumably of the same subspecies, was seen a week earlier. From this time forward until the end of January they were met with continually, and a few were noted at intervals through February. The situation where my observations were chiefly conducted was a closely cropped pasture of about a dozen acres, sloping gently to the southward. Here, during the two months mentioned, I never failed in twenty visits to find one or more flocks. As I obtained, from the first, only *praticola*, I assiduously pressed my investigations, hoping definitely to settle for the present season, at least, the true status of the two forms of *Otocoris* reported as occurring in this section. During December I shot one hundred three females and sixteen males, all of which belonged to the western race. In January thirty females and ten males of like kind were procured. A larger number could have been taken, but I desisted from shooting others as soon as I became satisfied as to the real character of the individuals constituting a company. A feature of marked prominence was the preponderance of females. Only on one occasion (Jan. 10) did I capture an equal number of both sexes.

	Sex.	Length.		Extent.		Wing.		Tail.	
		in.	mm.	in.	mm.	in.	mm.	in.	mm.
Maximum	♂	7.40	187.96	13.30	337.82	4.18	106.17	3.14	79.75
Minimum	♂	6.95	176.53	12.60	320.04	3.93	99.82	2.75	69.85
Average	♂	7.14	181.36	13.03	330.96	4.05	102.87	2.99	75.94
Maximum	♀	6.85	173.99	12.60	320.04	3.93	99.82	2.88	73.15
Minimum	♀	6.40	162.56	11.80	299.72	3.62	91.95	2.45	62.23
Average	♀	6.66	169.16	12.23	310.64	3.77	95.75	2.69	68.32

A parallel instance of male birds wintering further north than their consorts is exhibited in the case of the Towhee. Relatively few females of that species are found during the winter months in this locality.

About sixty-five per cent of the females collected had the chin and throat primrose-yellow. In several it attained an intensity corresponding to that of the brightest males. This depth of color does not necessarily indicate an appproach toward *alpestris;* as the wing in one of the deeper examples measures only 3.66 in., while in a white-throated specimen it reaches 3.88 in.

In the foregoing table are given the dimensions of twenty-six males and one hundred thirty-three females. The length of tail is the actual length of the longest rectrix. In the 'wing' the chord is given.—LEVERETT M. LOOMIS, *Chester, S. C.*

Corydomorphæ.—The Lark family, Alaudidæ, represents a particular superfamily series of true oscine passerine birds, distinguished from other Passeres by the non-oscine scutelliplantation, and may appropriately bear the above name, conformably with other passerine groups ending in *-morphæ* in Dr. Sclater's terminology. — ELLIOTT COUES, *Washington, D. C.*

Molothrus ater again in Massachusetts in Winter.—On Jan. 31, 1888, I shot a male Cow Bunting at Watertown, Mass. It was in an old field with a large flock of Goldfinches (*Spinus tristis*), feeding on the weeds and stubble that had not been covered by the snow. The bird was thin, but otherwise in good condition.

This is the third time that this species has been found wintering in New England.*—ARTHUR P. CHADBOURNE, *Cambridge, Mass.*

Blackbird Flights at Burlington, Iowa. — The autumnal migrations of the Icteridæ at Burlington, Iowa, are notable chiefly on account of the immense flocks of certain Blackbirds which congregate in that vicinity. The extensive swamps bordering the Mississippi River above and below the city, on the Illinois side, form an especially favorable rendezvous for these birds, three species of which are represented, nearly in equal numbers—*Quiscalus quiscula æneus*, *Scolecophagus carolinus*, and *Agelaius phœniceus*. During September and October the cornfields of Iowa are visited by countless numbers of these black marauders, which wander about in mixed flocks of several thousands, passing the day in the fields and the night in the woodland or marshes. And it is during this period that so many thousands are poisoned and killed by the farmers. About the first of October these birds begin to appear from the more northern districts, pouring into the Burlington swamps in myriads, and by the middle of the month immense numbers have here collected. Just before sunrise vast flocks begin to rise out of the swamps and radiate in all directions towards

* Two were killed at Belmont, Mass., Jan. 2, 1883, by Mr. Spelman (Bull. N. O. C., Vol. VIII, 1883, p. 121). One seen at Taftsville, Vt. from Dec. 30 to Jan. 30 (C. O. T[racy], Orn. and Oöl., Vol. IX, 1884, p. 45).

the inland cornfields, where they spend the day, returning again to the swamps before sunset. These flocks are often a quarter of a mile in width and are more than an hour in passing—a great black band slowly writhing like some mighty serpent across the heavens in either direction, its extremities lost to view in the dim and distant horizon. Not unfrequently three or four such vast flocks are in sight at one time. How far away from their night resorts they go each day has not been observed; an hour and a half before sunset, twelve miles away from the river, the mighty armies of Blackbirds are still seen coming over distant hills and directing their courses toward the marshes. It is evident, however, that many miles are daily traversed in their journeys to and from their feeding grounds. Making liberal deductions for any possibility of over estimating, the numerical minimum of individuals in a single flock cannot be far from twenty millions.—CHARLES R. KEYES, *Des Moines, Ia.*

Quiscalus quiscula aglæus at Charleston, South Carolina.—Mr. Loomis's record* of the finding of the Bronzed Grackle (♀. *q. æneus*) at Chester, South Carolina, reminds me that it may be well to mention that the bird of the coast region of South Carolina appears to be the Florida Grackle (♀. *q. aglæus*). At least this is the only form that either Mr. Wayne or I have thus far detected there. It is nowhere common, as far as our experience goes, but is apparently resident, for I found it breeding near Charleston in 1884, and Mr. Wayne has just sent me three specimens taken near Yemassee in January, 1888.

As Mr. Loomis has previously reported true ♀. *quiscula* from Chester, it follows that South Carolina furnishes all three subspecies. — WILLIAM BREWSTER, *Cambridge, Mass.*

The Evening Grosbeak in Ontario.—In 'The Auk' for July, 1887, Mr. E. E. Thompson has a note on the capture of the Evening Grosbeak near Toronto and records it as the fifth published occurrence in the Province, the other four being given in 'Birds of Ontario.' Probably this bird occurs every second or third winter in greater or less numbers, as I have frequently noticed them in the cases of stuffed local birds which are to be found all over the country. There is one in the collection of Ven. Archdeacon Sandys, Chatham, which was secured near that place; and one in the collection of Mr. John Dodds, St. Thomas, also of local occurrence; and one was taken near London in December, 1886, which I saw at the house of a taxidermist, but was unable to obtain particulars. — W. E. SAUNDERS, *London, Ont.*

Loxia curvirostra minor taken again at Yemassee, S. C. — Ten Red Crossbills were shot at Yemassee by a negro boy during the month of January, 1888. It seems as if they had changed their diet, as their crops contained only worms, which are found in dead pine trees. There was no 'pine mast' to be had, and perhaps that accounts for their change of food.—ARTHUR T. WAYNE, *Charleston, S. C.*

* Auk, Vol. V, No. 1, p. 113.

Carpodacus purpureus at Portland, Maine, in Winter. — Last Autumn (1887) I saw Purple Finches (*Carpodacus purpureus*) in the outskirts of the city up to November 11,—later than they had ever been seen in this vicinity. Having no suspicion that they would remain through the winter, and being very busy, I then ceased to look for them. During the last of January, however, I frequently heard bird notes I could not ascribe to any resident species, or to any species known to winter about Portland, and I was told by friends living in the suburbs that the mountain ash berries there were being eaten by a strange bird. On January 26 and 27, Portland was visited by the severest storm that has occurred here for nearly twenty years. One might think that such weather (there was now over three feet of snow) would have discouraged a bird unused to our winter season; but such was not the case, for, early in the morning of February 1, I saw a Purple Finch (a female or immature male) feeding on the berries of a mountain ash which grows in front of my study window. That afternoon I noticed three birds, an adult male and two females or immature males, in the same tree. On February 8, I saw three adult males feeding in a crab-apple tree from which the fruit was not gathered in the fall. For the succeeding twelve days, besides seeing individuals in mountain ash trees, I never passed this crab-apple tree without noticing these birds there. The largest number seen was seven, — five males and two females or immature males. During these twelve days* five inches of snow fell and the thermometer averaged 18.5° Fahrenheit For the next two weeks I was out of town and unable to take notes. On March 10 I found at least eight Purple Finches in a large flock of *Spinus pinus;* it was impossible to count them accurately. For the next three days they fed in the same place (under a mountain ash where the snow had blown off) in about the same numbers. On March 13, came a terrific snow-storm which will hardly need to be recalled to Eastern readers of 'The Auk.' Nevertheless, on the following day, Purple Finches were still here, and I have seen them every day since up to the present time (March 20). It may here be stated that their earliest recorded arrival at Portland is March 23 (*N. C. Brown*, Proc. Port. Soc. Nat. Hist., 1882, p. 12). Of late they have grown shyer and do not associate so much with the Pine Finches. The largest number I have seen together is twelve, and that only once.

When it is remembered that that part of the winter during which I saw no specimens was by far the mildest, I think no one will doubt that Purple Finches have been resident here this year. There seems to be no previous record of their occurrence at all in winter so far north in New England as Portland; and it is remarkable that they should have chosen an unusually severe winter for what may be a first experiment. — JOHN C. BROWN, *Portland, Maine.*

*At this time a notice of their occurrence up to February 20, which was published in the Portland 'Daily Advertiser' for March 20, was handed in to the Portland Society of Natural History.

Ammodramus leconteii at Yemassee, S. C.—I have been on the lookout for Leconte's Sparrow every winter since I shot the one which Mr. Brewster recorded in 'The Auk' for July, 1886, but have been unsuccessful until February 9 of this year when I shot a fine male as he flew up from an old abandoned rice-field. This bird is the only one I have seen since I shot the one in 1886; and the bird can be considered as only a straggler to lower South Carolina.—ARTHUR T. WAYNE, *Charleston, S. C.*

Ammodramus henslowii wintering in large numbers at Yemassee, S. C.—I shot during the months of January and February of this year thirty-six Henslow's Sparrows; several seen to fall in the high grass could not be found. In the series of thirty-six examples before me they vary greatly in size and markings. Some have the pectoral band so dark and heavy as to hide the other surface markings, and at a glance one would pronounce the breast unbroken jet black.

I have never found this species wintering here before. It is a very rare bird with us, and is only to be found in any numbers in the fall.—ARTHUR T. WAYNE, *Charleston, S. C.*

Occurrence of Vireo flavoviridis at Riverside, California.—On October 1, 1887, I noticed, while hunting in the Santa Ana River bottom, a little bird flitting about in the top of a high cotton-wood tree. It was secured, and to my surprise, I found it to be a *Vireo flavoviridis*. Mr. Ridgway, to whom I sent it for positive identification, says it is the most highly colored specimen he has seen. This Vireo is confined to the Lower Rio Grande Valley and southward, therefore my specimen must have been a straggler.—WILL W. PRICE, *Riverside, Cala.*

The Northern Range of *Oporornis formosa* in Illinois.—May 23, 1887, I secured a female of *Oporornis formosa* one-half mile southeast of Grand Crossing, among the undergrowth in a small isolated patch of woods. The finding of this species in that locality is an event of unusual interest. A specimen has been reported to me by my friend, Mr. H. K. Coale, of Chicago, as found by Mr. R. B. Trouslot at Plano, Illinois, a few years ago. These records mark the northern limit of this species in this State, so far as I know. Mr. Robert Ridgway, of Washington writes, however, in answer to my inquiries, that the only record of the occurrence of *O. formosa*, to his knowledge, in northern Illinois is that mentioned by Mr. E. W. Nelson (Bull. Essex Inst., VIII, 1876, p. 101), who gives the species as being "a very rare summer visitant from Southern Illinois," but on what evidence Mr. Nelson based his statement is not specifically mentioned.—JOSEPH L. HANCOCK, *Chicago, Ill.*

Protonotaria citrea in Montgomery County, Pennsylvania.—On May 15, 1887, I took a high-plumaged male Prothonotary Warbler near Arcola, Montgomery County, Pa. It was feeding well up in a tall larch on the banks of Perkiomen Creek. This was the only one of the species seen at

the time, but shortly afterwards several more were found in the hardwood trees on the brow of a hill in the immediate vicinity. In both instances the birds, although near water, were on comparatively high ground and at some distance from the swampy coverts which we would have expected them to affect.—H. F. MOORE, *Philadelphia, Pa.*

Dendroica tigrina at Iowa City, in November. — A small bird taken at Iowa City, Iowa, November 27, proved to be a Cape May Warbler (*Dendroica tigrina*). It was feeding in the top of a pine tree in one of the door-yards at that place, where it was shot. It was in immature plumage, which was very much soiled with pine resin; but otherwise was in good condition.—CHARLES R. KEYES, *DesMoines, Iowa.*

Bird Notes from Toronto.—A male *Sturnella magna* was collected Feb. 21, 1881, by Mr. Jas. Helliwell, at Highland Creek, about fifteen miles east of Toronto. The bird was in fine plumage and in fairly good condition. He had his 'home' in a dense thicket in a deep ravine, through which ran a 'Spring Creek' (which did not freeze during the winter), about a mile from a barn-yard which he visited almost daily, feeding on sweepings and pickings from manure. The bird was carefully dissected but no wound or injury of any kind could be found. The gizzard contained a few small pieces of gravel, a few grains of oats, and pickings from cow dung. This is believed to be the first record of this species wintering north of Lake Ontario.

A male *Melospiza fasciata* was collected Feb. 2, 1886, by Mr. Wm. Squires, while feeding on amaranthus seeds in a garden in St. Matthewsward, Toronto. Snow ten inches in depth. Another specimen was taken Jan. 31, 1887, by Mr. Daniel G. Cox, in a ravine in St. James Cemetery, Toronto, in a willow thicket densely grown with goldenrod (*Solidago*). Snow six inches deep.

April 4, 1886. *Merula migratoria* Linn. Gizzard contained three hipps of *Rosa blanda* and one larva of *Pyrrharctia isabella*. Ground frozen. It is not usual for any bird to feed on the larvæ of this moth.

A male *Icterus spurius* was collected May 13, 1887, while pursuing insects through willow blossoms, just east of the city limits. Believed to be the first authentic record of the occurrence of this bird at Toronto.

A male European Goldfinch (*Carduelis elegans*) was collected May 21, 1887, by Mr. Daniel S. Cox, about a mile north of the city limits—one out of four—while resting on the top of a beech tree. The remaining three flew off in a northerly direction. The birds were evidently in a natural condition and migrants from the south, doubtless from the New York colony.—WILLIAM BRODIE, *Toronto, Can.*

CORRESPONDENCE.

[*Correspondents are requested to write briefly and to the point. No attention will be paid to anonymous communications.*]

Observations on the Pterylosis of Certain Picidæ.

To the Editors of The Auk:—

Dear Sirs:—On the 25th of last August, 'Forest and Stream' very kindly published a contribution of mine entitled 'A Chapter on Pterylography,' which was illustrated by five figures. That paper pretended to be nothing more than a good guide to those interested in pterylography, and who desired to know something of one of the best characters we find in birds to assist us in their classification. It was also written with the hope that those who had the opportunity might more carefully examine into this character among our own birds, and in time be enabled to make some useful contributions to the subject.

In the 'Chapter' I refer to, my chief examples were chosen from the Woodpeckers, and in the course of my demonstrations of the *apteria* and *pterylæ*, as found among certain forms of those birds, a number of interesting and important facts came to light. Since then, I have carefully examined the pterylosis in the genus *Colaptes*, and compared it with additional specimens of *Dryobates* and *Sphyrapicus*. Had I been ready to pluck certain tempting specimens from the Pacific coast region, which I have by me in alcohol, and for which I am under great obligations to Mr. G. Frean Morcom of Chicago, and Mr. F. Stephens of San Diego, Cal., I might have thrown perhaps still more light upon this subject, but these specimens I am reserving for a future and more extended memoir upon the Pici. At any rate I would like to review in the present connection some of my observations upon the pterylosis of the American Picidæ, and bring the facts in question more directly to the notice of working ornithologists.

Nitzsch in his classical volume on 'Pterylography' (English Trans.) confesses to have been able to examine only a few species of Woodpeckers, so his account of the pterylosis in this group of birds is not as full as it might otherwise have been. His investigations were apparently confined to *Picus luridus* (a species of Sumatran Woodpecker, first described by him, and which lacked the small "inner humeral tract"), *P. tridactylus*, *P. carolinus*, *P. bengalensis*, *P. auratus*, *P. medius*, *P. macei*, *P. martius*, together with *Picumnus minutus*, and *Yunx torquilla*.

In his descriptions of the pterylosis in Pici, this eminent observer calls attention to the submedian, longitudinal capital apterium, extending along the elevation caused by the underlying limbs of the prolonged hyoidean apparatus. This is shown at *b*, *c*, in Fig. 2 of the present letter.

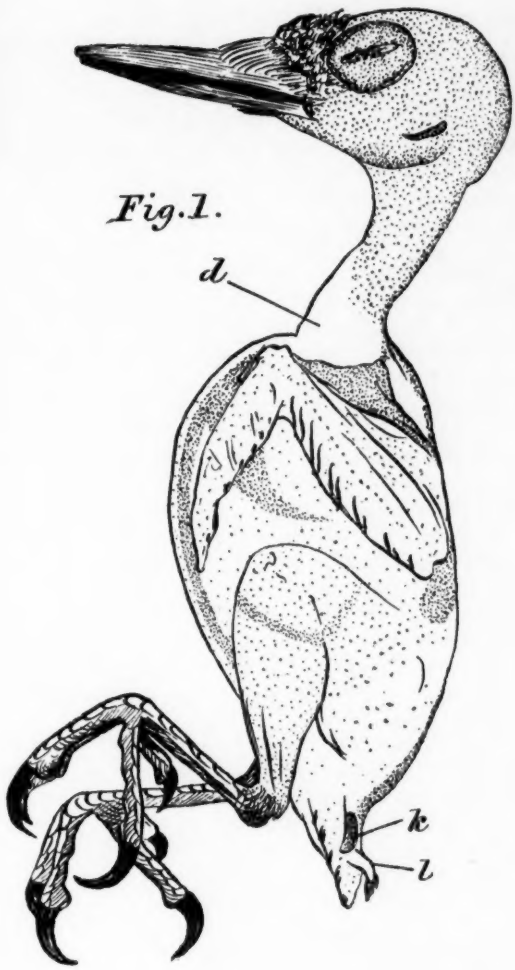

FIGURE 1.—Left lateral view of a plucked specimen of Harris's Woodpecker (*D. v. harrisii*), ad. ♂, life size, by the author, from the specimen; *d*, upperpart of the 'inferior space' (*Apt. mesogastræi*); *k*, the uropygial gland of the left side; *l*, its external papilla with opening at its summit, which is also tufted.

Nitzsch says of it, that "On the head the vertical space is especially remarkable, a band destitute of contour-feathers extending from the base of the beak, over the forehead to the occiput, which I find in all Woodpeckers" (p. 96). As I have already shown in my 'Forest and Stream' article, and here reproduced in Fig. 5, this feature is totally absent in

Sphyrapicus v. nuchalis, and it is a well-known fact that in this Woodpecker the limbs of the hyoid arches are nearly or quite as short as we find them in ordinary birds.

Another apterium, also alluded to by Nitzsch, and occurring on the sides of the head, is the temporal space; this small, subcircular, naked area, when present, is found just behind the eye and above the aperture of the ear. It was not observed by me in the specimen of Harris's Woodpecker shown in Fig. 1, but recent and more extended observations lead me to believe that it is a quite constant pterylographic character in this species. On the other hand, I have yet to find it present in *Sphyrapicus*, although I do not positively deny that there may be exceptions to this rule likewise. It is invariably present in *Colaptes*, a picine form which also has the longitudinal capital apterium well marked. The remainder of the head in Pici, so far as the writer has examined them, is always found to be densely feathered (Fig 4).

Among Woodpeckers the spinal tract offers us many and important variations (see Fig. 2, *g*, *h*, *j*, and Fig. 5). Nitzsch discovered so many differences in this particular in the species he examined that it will be impossible to enumerate them here. Figure 2 shows very well the distribution of the spinal feather tract in *D. v. harrisii*, and Fig. 5, the interesting departure therefrom in *Sphyrapicus*, in which latter species the arrangement is much the same as we find it to be in many typical passerine birds. In *Picus viridis* an interruption takes place between the narrow median neck strip of the spinal tract and the 'saddle area' (*h*), and in *Colaptes* this feature is likewise fairly well marked. *Colaptes* again has the posterior moiety of the spinal tract, just as we find it to exist in *Dryobates*, as shown in Figure 2, at *j*. As far as I know all Woodpeckers have a strongly tufted oil gland (Fig. 1, *l*).

Faintly marked as a rule in all Pici, the *femoral tract* in *Colaptes* agrees in being but feebly traceable by the presence, on either side, of a few downy feathers, and at the most not more than some three or four contour ones. Like *Dryobates*, however, *Colaptes* possesses on either leg, a well-defined 'crural tract,' occupying a position similar to the one we find it in in the majority of Woodpeckers (Fig. 2, *i*). Nitzsch, as I have elsewhere stated, found the 'inner humeral tract' (Fig. 2. *f*) absent only in the Sumatran species, which he described as *Picus luridus;* this characteristic and sharply defined though small feather area is present in all species of *Colaptes*, as it is in every American Woodpecker that the writer has ever submitted to a pterylographic examination. On the outer side of this smaller humeral tract we also find, in every species of Woodpecker, the larger 'humeral tract' proper, which, as is usual, passes obliquely across the region of either shoulder, as shown in Figure 2 at *e*, and in Figure 5, where it is likewise well marked. If we carefully examine, we shall find very sparsely appearing feathers, for the most part downy ones, showing themselves here and there on the apteria among the dorsal areas. No special description is needed here for the 'alar tracts' in these birds, and we can next turn to the ventral aspects of the specimens under consideration. Here we find the feather areas very well defined, more espe-

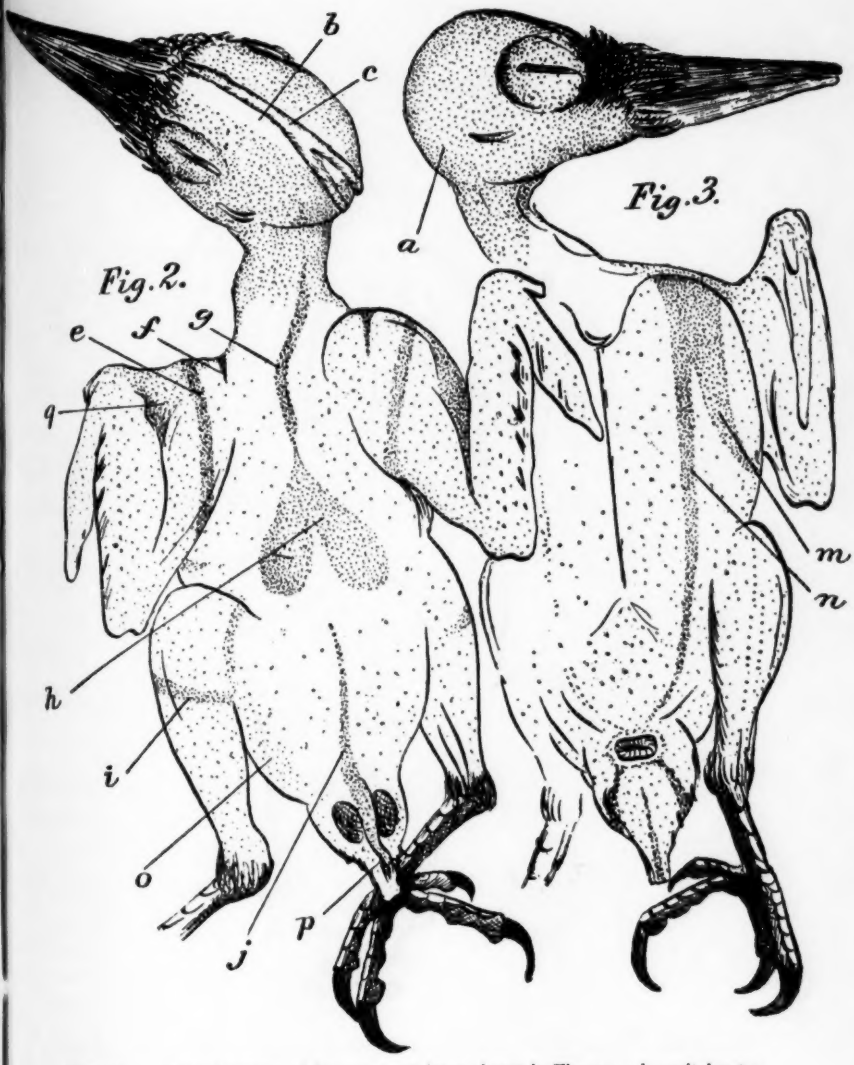

FIGURE 2.—Dorsal aspect of the same specimen shown in Figure 1; *b*, capital apterium; *c*, the median (at the point indicated) elevation of the skin caused by the epibranchials of the hyoidean apparatus beneath it; *g*, spinal tract; *f*, inner humeral tract; *h*, lower dilation of spinal tract (the saddle); *j*, lower part of spinal tract (rump tract); *i*, crural tract; *o*, femoral tract (very faintly seen in a Woodpecker); *g*, alar tract.

FIGURE 3.—Anterior or ventral aspect of the same specimen, with its head turned to the left; *a*, capital tract; *n*, the ventral tract, and *m*, its external branch. From nature, by the author.

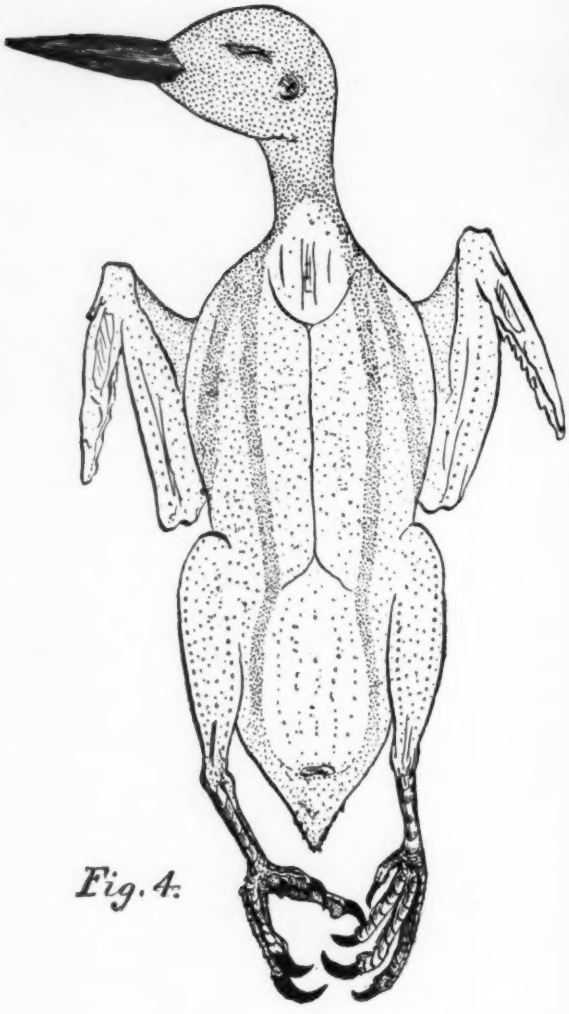

Fig. 4.

FIGURE 4.—Ventral view of a plucked specimen of the Red-naped Woodpecker (*Sphyrapicus v. nuchalis*), showing its pterylosis. From nature, life size, by the author.

cially the 'ventral tract' and its peculiar external branch (Fig. 3, *m*. and *n*).

It will be seen that in *Dryobates* the main ventral tract is very broad near the summit of the shoulder, and continues to be so until we arrive at the bifurcation with its external branch *m*, which latter curves out towards

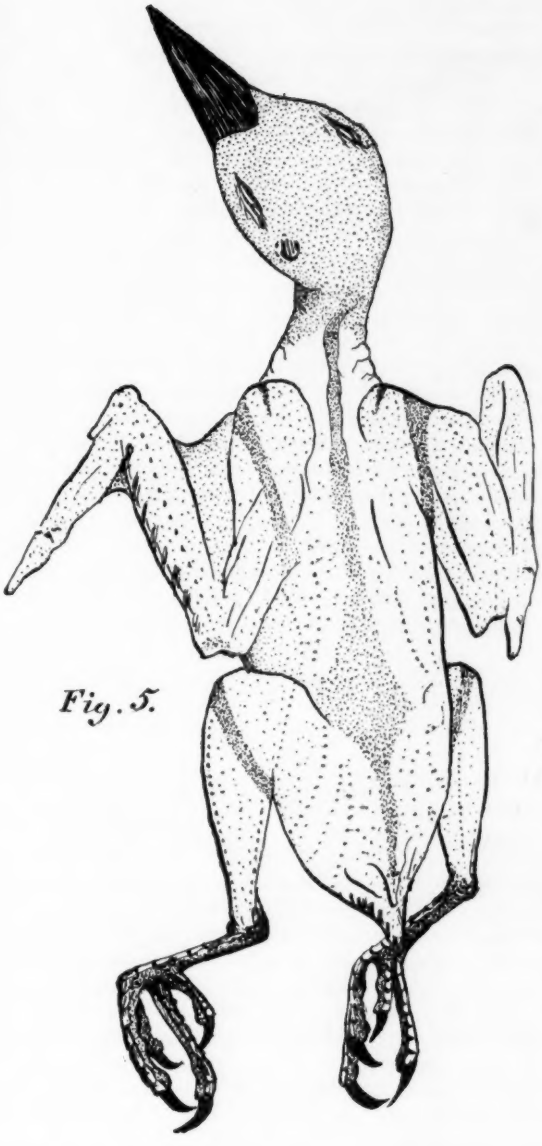

Fig. 5.

FIGURE 5.—Dorsal aspect of the same specimen of *Sphyrapicus* shown in Fig. 4, designed to illustrate its pterylosis. Drawn by the author; life size.

the side as a sharp-pointed and handsome hook (see also Fig. 1), terminating in a free extremity. Figure 4 shows this arrangement to be quite different in *Sphyrapicus*, where the form of the external branch is narrower, and the bifurcation higher up towards the neck of the bird. It too, however, terminates in a free-pointed extremity at the side. The abdominal part of the main ventral tract is much stronger in *Sphyrapicus* than it is in Harris's Woodpecker, in which latter species it usually dwindles to a single row of contour-feathers before arriving at the vent. Both species have the aperture of the vent completely surrounded by a single row of small contour-feathers, while in *Dryobates* there are posterior to this region a mid-coccygeal pteryla, with an oblique lateral one on each side of it (Fig. 3). These I have designated as the 'postventral tracts.'

Colaptes has, both in arrangement and form, its ventral and postventral tracts almost identically the same as we find them in the genus *Dryobates*.

Nitzsch, alluding to the rectrices and remiges in the Woodpeckers, says "*twelve* tail-feathers, but the two outer ones small and bent in between the two preceding ones," and "the wings bear from nineteen to twenty-one remiges, but always ten on the pinion, of which the first is rather short, the second is likewise shorter than the following ones, but the third is sometimes equal to the fourth and fifth, and with them the longest, and sometimes exceeded by the fourth, fifth and sixth, which are then of equal length."

Persons interested in the study of this subject may well consult besides Nitzsch's 'Pterylography' certain important papers in the early issues of the 'Proceedings' of the Zoölogical Society of London.

Faithfully yours,

R. W. Shufeldt.

Fort Wingate, New Mexico,
21st Feb. 1888.

Polydactylism in Birds.

To the Editors of the Auk:—

Sirs:—My attention has been directed to a short article in 'The Auk' (Vol. IV, No. 4, pp. 331-333, Oct. 1887), on 'Ornithological Curiosities.—A Hawk with nine toes, and a Bobolink with spurs on its wings.' I do not profess to be an ornithologist, though much interested in the subject, and something of an observer of bird life; I prepare this note as a teratologist. I am much pleased with the report of the cases of the supernumerary development by Mr. Henry K. Coale, and hope his example will be followed by others from numerous observers all over the land.

In my somewhat extensive researches for the purpose of collecting and classifying the bibliography and references relating to the 'The Material of Teratology,' I have been surprised at the infrequency as well as the meagreness of reports, and the almost absence of even incidental mention of cases of supernumerary and duplex development in birds. Such as

are found are almost exclusively such as occur in domesticated fowls. I have been disposed to believe that ornithologists are inclined to ignore malformations and monstrosities as unworthy of study, or even mention, and that they have cast aside the specimens which have presented themselves to their casual notice, as one would an imperfect example in any other department of natural objects.

I desire to invite the co-operation of all classes of 'bird men'—sportsmen, collectors, and scientific ornithologists—in procuring and reporting all cases of double monsters, or of supernumerary development, in any degree in which it may be found in any species of the feathered tribes. I am quite certain that 'The Auk' will be a proper medium of communication—under the head of Teratological Notes—or Ornithological Teratology.

Ulysses Aldrovandus, who was a celebrated ornithologist, and a voluminous writer on the subject two and a half centuries ago, gives us many illustrations of double monstrosities, extra legs and extra toes in various species of birds. These are chiefly found in his special work 'Monstrorum Historiam,' a ponderous folio, published sumptuously in 1642. The pages 549 to 570 are occupied with descriptions of cases of extra limbs in birds, under the title 'Multiplicatio pedvm in fœtivs avivm,' and is illustrated with seventeen figures. The cock of the common fowl on page 560 has two extra toes attached to his left leg.

Otto, in his great work, 'Monstrorum Sexcentorum Descriptio-Anatomica,' grand folio, 1841, describes (No. 473) a chicken with seven toes on its right foot.

Polydactylus is not rare among animals that normally are possessed of several digits. In the human subject six or more fingers or toes are not very uncommon. In three well authenticated cases, as many as nine toes were developed on the left foot.

There is already an extensive literature pertaining to teratology, and still it is desirable to have more accurate records of genuine cases of congenital malformations, particularly such as may occur among non-domesticated animals and birds. There are many interesting questions, both scientific and popular, which may be enlightened by a powerful array of well attested facts. The miserable popular belief that maternal mental emotion can and does produce malformations, will receive its annihilating blow when it is generally known that every form of malformation which has ever been observed in the human fœtus, has its exact analogue in all the lower animals—viviparous and oviparous. It is a fact, that there is no physical monstrosity which is peculiar to the human fœtus.

George Jackson Fisher, M. D.

Sing Sing, N. Y.

NOTES AND NEWS.

Dr. Joseph B. Holder, one of the Founders of the A. O. U., died suddenly of apoplexy, Feb. 28, 1888, at his residence in New York City, at the age of sixty-four years. Dr. Holder was born in Lynn, Mass., and was a graduate of the Harvard Medical School. In 1846 he published a 'Catalogue of the Birds Noticed in the Vicinity of Lynn, Mass., during the years 1844-'5-'6,' the paper forming 'No. 1' of the 'Publications of the Lynn Natural History Society.' During subsequent years he published occasional observations on birds. His last formal ornithological paper, on 'The Flight of Birds,' was read before the New York Academy of Sciences, Dec. 19, 1887, and is now in press in the 'Transactions' of the Academy. Dr. Holder was more especially interested in invertebrate zoölogy. Through the influence of Professors Agassiz and Baird, he was appointed, in 1859, a surgeon in the United States Army, and assigned to duty at the Dry Tortugas, where he spent several years making, in addition to performing his official duties, valuable collections and observations in natural history. During the War of the Rebellion he was assigned to staff duty, and held important positions. In 1870 he became connected with the American Museum of Natural History in New York City, and from this date till 1885 was the chief assistant in charge of the collections, those of geology and conchology excepted. His charge thus not only included the large collections of mammals and birds, which he arranged and cared for, but also the fishes, reptiles, insects, and invertebrates generally. He remained in charge of these collections, mammals and birds excepted, until his death. He was a frequent contributor of popular articles on natural history to various magazines and papers, and published a number of original papers on his special subjects of study. His death will be a severe loss to the Museum with which he was so long connected, and will be deeply felt by the wide circle of friends to whom he had endeared himself by his genial qualities of heart and mind. He leaves a widow and son, the latter, Mr. C. F. Holder, a well-known popular writer of works on natural history.

Professor Charles Linden, of Buffalo, N. Y., an Associate Member of the A. O. U., died at Buffalo, Feb. 3, 1888, at the age of fifty-six years. For many years Professor Linden was employed as Custodian of the Buffalo Society of Natural History, and as a teacher of natural history in the High School of that city, where he organized the 'Field Club,' of which he was the leader. Born in Breslau, Germany, where he was educated, he came in early life to this country, and for a time was "a sailor on the lakes." He was an ardent lover of nature, and his zeal as a teacher and explorer inspired in his pupils a kindred enthusiasm. During his vacations he made numerous protracted collecting expeditions, visiting the Everglades of Florida, the West Indies, Brazil, and Labrador, making repeated trips to the Chaleur Bay Region, mainly in the interest of the Buffalo Society of Natural History, whose collections he greatly enriched.

He was a frequent contributor to various natural history journals, and published in 'Forest and Stream' an extended account of his varied experiences in the Florida Everglades. His exposures during this expedition resulted in an illness from which he seems never to have fully recovered, and which eventually resulted in his death in an insane asylum. He was an indefatigable worker, a noble-hearted, genial companion, tenderly loved by his pupils and associates. A large part of his Brazilian collection of birds, made principally at Santarem, is in the Museum of Comparative Zoölogy at Cambridge, Mass.; an account of it was published in the 'Bulletin' of the Essex Institute (Vol. VIII, 1876, pp. 78-83).

A JOINT meeting of the various Audubon Monument Committees of New York City was held Feb. 2, at the University of New York. Professor Thomas Egleston, Chairman of the New York Academy of Sciences Committee, presented a draft of a design which was adopted by the joint meeting, and reports of progress were made by each of the five committees represented. The monument will be in the form of a Runic cross, about fifteen feet in height, surmounting a pedestal eight feet high. The bas-reliefs will include a medallion of Audubon, figures of various birds, mammals, and plants, with inscriptions. A cut of the design adopted was ordered, for use in connection with circulars to be issued by the committees in the appeal for funds. The cost of the monument is estimated at $10,000. Considerable money has already come to hand — enough to indicate that when the plans can be definitely announced, and the object contemplated can be fairly set forth, the amount desired will be secured.

Mr. William Dutcher (51 Liberty St., New York City), Treasurer of the A. O. U. Audubon Monument Committee, reports the following contributions as all thus far (to March 20), received by the A. O. U. Committee namely: Bradford Torrey, $5.00; L. O. Pindar, $2.50; E. S. Holmes, $1.00; — total, $8.50! This is indeed a small beginning! The A. O. U. Committee will immediately issue an appeal for contributions, which will be sent to each member of the A. O. U. The responses, it is hoped, will be prompt, and creditable to the ornithologists of the country, who, above all others, should aid liberally this praiseworthy attempt at a proper recognition of Audubon and his scientific work.

Perhaps it should be added that the above record does not fully represent the contributions of ornithologists to this fund, several having sent considerable sums to the Treasurer of the New York Academy Committee.

IN ISSUING the January number of the 'The Auk' it was found, at the last moment, impossible to publish with it the 'By-Laws and Rules' and 'List of Members,' as announced on page 97 and in the 'contents,' owing to unexpected delay in the printing, without unduly delaying the publication of the number. They are therefore sent out with the present number, separately paged (pp. ix-xxviii), to follow the title-page and 'contents' of the volume in binding. In the meantime the 'By-Laws and Rules,' etc., have been published separately as a pamphlet and sent to all the members of the A. O. U.

THE TREASURER of the A. O. U. desires to express his thanks to the members of the Union for their prompt response in the matter of payment of dues. Of the 47 Active Members and 170 Associate Members, eighty-seven per cent have paid their assessment for the current year. Resignations and deaths have reduced the membership list three per cent, leaving ten per cent of the members still to be heard from.

In this connection the Treasurer would call the attention of Active and Associate Members to the desirability of increasing the subscription list of 'The Auk.' At present the journal is about on a paying basis, but were its circulation increased the magazine could be enlarged and otherwise improved. It is to be hoped that each member of the Union will endeavor to secure immediately as many new subscribers as possible from among his ornithological friends who are not as yet readers of this journal.

THE PATRONS of 'The Auk' will be interested to learn that the publication of a series of papers by Capt. Charles E. Bendire, U. S. A., on the nesting habits of some of our least known North American birds, will begin in the July number. The first paper will treat at considerable length and in a popular way of the nesting habits of the Woodpeckers of the genus *Sphyrapicus*, concerning several of the species of which group very little has hitherto been published. Captain Bendire's long experience in the field, his unequalled resources in the way of material, and his well known accuracy as an observer, will render his papers exceptionally authoritative and interesting.

AN ORNITHOLOGICAL society has been founded, at New Haven, Conn., under the name 'New Haven Ornithological Club.' Its officers are L. B. Bishop, President; H. H. Flint, Vice-President; C. C. Trowbridge, Treasurer; Robert D. Camp, Secretary. The Secretary's address is P. O. Box 726, Stamford, Conn. Meetings are held on the first Thursday of each month. The Club is in a flourishing condition, and it has our cordial wishes for continued success.

AT THE annual meeting of the Linnæan Society of New York, held March 9, the following officers were elected: President, George B. Sennett; Vice-President, Frank M. Chapman; Treasurer and Corresponding Secretary, Newbold T. Lawrence; Recording Secretary, Jonathan Dwight, Jr. The Linnæan Society has of late come to be practically an ornithological Society, all of its most active members being ornithologists, and ornithological subjects largely predominating at its meetings. At the last meeting the principal paper was by Mr. William Dutcher, on rare Long Island birds, and is published in the present number of 'The Auk.'

THE American Museum of Natural History of New York City has recently received from Dr. Edgar A. Mearns, U. S. A., two large cases of bird skins from Arizona. The collection numbers over 2,000 beautifully prepared specimens, including a very fine series of the Birds of Prey

of that Territory. The Museum has also just added by purchase a collection of 400 bird skins collected by Dr. H. H. Rusby in Eastern Bolivia. This small gathering is especially interesting, as it comes from a little known region, more than one-half of the species represented proving new to the Museum's previously rich collection of South American birds. The Museum is also fortunate in securing, as an Assistant in the Department of Ornithology, Mr. Frank M. Chapman, who has recently returned from a winter's sojourn in Florida to enter upon his new duties.

From the recently published 'Annual Report' of the Museum for the year 1887, we learn that the number of bird skins now in the Museum is about 39,000, of which 13,000 are mounted. It appears that over 21,000 specimens were added during the last year. Including Mr. George B. Sennett's collection, the total number of specimens of birds available for study at the Museum is fully 45,000. The collection of nests and eggs is proportionately large.

THE SUBJECT of the voluntary interlocking of the primaries in soaring birds (see Jan. Auk, pp. 126, 127) came up again for discussion at the meeting of the New York Academy of Sciences, held Jan. 9 last, and formed the special topic of the evening. The discussion was opened by a paper by Mr. J. A. Allen, entitled 'On the Flight of Birds, with special reference to recent alleged discoveries in the Mechanism of the Wing,' in which he answered certain criticisms made at the previous meeting of the Academy, reflecting on the motives and animus of the ornithologists, and then took up the structure of birds in relation to flight, describing at some length the bones and muscles involved, and the arrangement and structure of the feathers. The alleged "new muscles" were shown to have been well known for over a century, and by means of a freshly-killed *Buteo borealis* it was demonstrated that the tips of the primaries, when the wing is fully extended, as in soaring, do not even touch each other, but are separated by a considerable space, and that consequently overlapping at the tip, or 'interlocking,' is simply impossible. It was shown that the wing must be partly closed before the tips of the primaries can be brought near enough to overlap, and that if they should overlap—which they can do only in the partly closed state of the wing—they would fail entirely to aid in relieving muscular strain in keeping the wing distended. In short, it was shown that the 'interlocking' claimed was not only an impossibility, but was wholly unnecessary as a provision for relieving muscular tension in flight. Yet the advocate of the new discovery refused to be convinced, and stated that if any one expected him to 'back down' they would find themselves 'mistaken in their man,' or words emphatically to this effect. Those interested in the original paper and in the discussion which followed it will find the subject quite fully reported in the Academy's 'Transactions' (Vol. VII, giving reports of the meetings for November and December, 1887, and January, 1888).

MR. MONTAGUE CHAMBERLAIN, in the preface to his 'A Systematic Table of Canadian Birds,' announces that his "promised 'Bibliography of Canadian Ornithology' is well under way, and will probably be published during the coming summer." Its appearance will certainly be awaited with interest.

AMONG recent additions to the list of periodicals of an ornithological character are the 'Oölogist's Exchange,' a 4-page monthly, published at Austen, Ill., by T. Vernon Wilson; 'The Bay State Oölogist,' also a 4-page monthly, "devoted exclusively to students of birds, their nests and eggs" (*sic*), published at Pittsfield, Mass., by W. H. Foote; and 'The Collector's Illustrated Magazine', a monthly 16-page octavo, "devoted to the interests of collectors in all branches," edited and published by E. M. Haight, of Riverside, Cal. The first number of each is dated January, 1888. The two numbers which have reached us of the first-named consist mainly of selections from various sources; those of the other two contain original articles and notes as well as selections. Some of the original notes are of considerable interest. If the editors or publishers of these and the many other journals of a somewhat similar character now issued in various parts of the country will kindly send their respective journals regularly to the editor of 'The Auk', he will see that the original articles on birds are duly noted, from time to time, in 'The Auk,' under the head of 'Minor Ornithological Publications', in the department of 'Recent Literature.'

JUST at present Mexico seems to be a favorite field for ornithological research. As the readers of the 'The Auk' are well aware, Mr. William Brewster has had several collectors at work during the past year in Lower California and Western Mexico, one of whom is still in the field. Mr. F. DuCane Godman is also giving special attention to ornithology in connection with other departments of Mexican biology, he having recently placed in the field in the southeastern and other portions of the Republic, several collectors, including Mr. and Mrs. Herbert H. Smith, Mr. F. B. Armstrong, and Mr. William Lloyd, the latter well known for his ornithological work in Texas. Mr. George B. Sennett is also extending his work beyond the Texan border, he having sent two collectors, Messrs. Priour and Grover, into northeastern Mexico, to explore the States of Tamaulipas and Nuevo Leon. The combined results of this activity cannot fail to soon make the ornithology of many portions of Mexico comparatively well known.